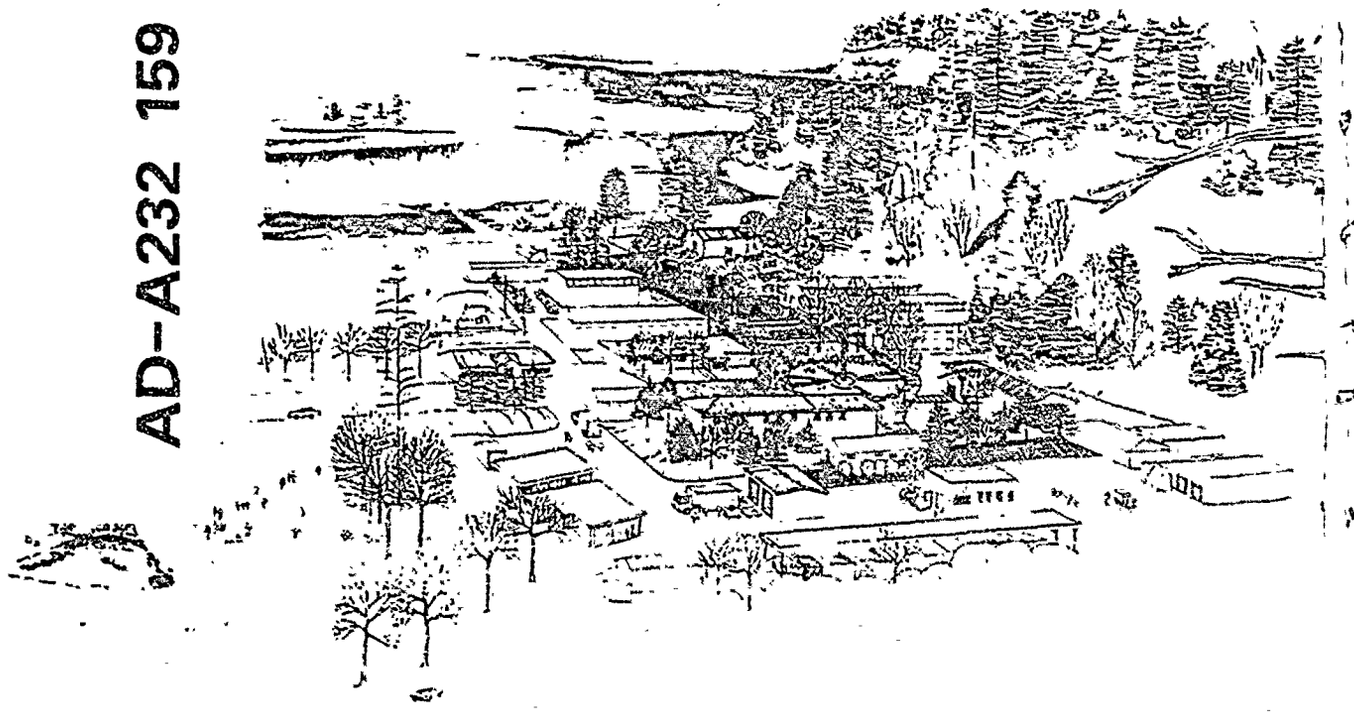
MAKAH AIR FORCE STATION
RE-USE PLAN



OFFICE OF ECONOMIC ADJUSTMENT
DEPARTMENT OF DEFENSE

FEBRUARY 1988

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	February 1988	Base Reuse Study

4. TITLE AND SUBTITLE
Makah Air Force Station Re-Use Plan

5. FUNDING NUMBERS

6. AUTHOR(S)
David M. Dornbusch and Company

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Makah Tribal Council
Neah Bay, Washington

8. PERFORMING ORGANIZATION REPORT NUMBER

9 SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
DOD
Office of Economic Adjustment (OEA)
Room 4C 767
Washington, DC 20301-4000

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for Public Release Distribution is Unlimited

12b. DISTRIBUTION CODE

13 ABSTRACT *(Maximum 200 words)*

This document identifies potential reuse plans for the facilities at the Air Force Station. Three potential uses were recommended: Educational Institute; a Tribal Center for Conferences, Retreats and Recreation; and a Alchol and Drub Abuse Treatment Center combined with Vocational Rehabilitation.

14. SUBJECT TERMS
History
Economic Adjustment

15. NUMBER OF PAGES
55 plus Appendix

16. PRICE CODE

17 SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	

GENERAL INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation Page (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filling in each block of the form follow. It is important to ***stay within the lines*** to meet ***optical scanning requirements.***

Block 1. Agency Use Only *(Leave blank)*.

Block 2. Report Date Full publication date including day, month, and year, if available (e.g. 1 Jan 88) Must cite at least the year.

Block 3. Type of Report and Dates Covered. State whether report is interim, final, etc. If applicable, enter inclusive report dates (e g. 10 Jun 87 - 30 Jun 88).

Block 4. Title and Subtitle A title is taken from the part of the report that provides the most meaningful and complete information. When a report is prepared in more than one volume, repeat the primary title, add volume number, and include subtitle for the specific volume. On classified documents enter the title classification in parentheses

Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s) Use the following labels:

C	- Contract	PR	- Project
G	- Grant	TA	- Task
PE	- Program Element	WU	- Work Unit Accession No

Block 6. Author(s) Name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. If editor or compiler, this should follow the name(s).

Block 7. Performing Organization Name(s) and Address(es). Self-explanatory.

Block 8. Performing Organization Report Number. Enter the unique alphanumeric report number(s) assigned by the organization performing the report.

Block 9. Sponsoring/Monitoring Agency Name(s) and Address(es). Self-explanatory

Block 10. Sponsoring/Monitoring Agency Report Number. *(If known)*

Block 11. Supplementary Notes. Enter information not included elsewhere such as: Prepared in cooperation with...; Trans. of...; To be published in.... When a report is revised, include a statement whether the new report supersedes or supplements the older report.

Block 12a. Distribution/Availability Statement. Denotes public availability or limitations. Cite any availability to the public. Enter additional limitations or special markings in all capitals (e.g. NOFORN, REL, ITAR).

- DOD - See DoDD 5230.24, "Distribution Statements on Technical Documents."
- DOE - See authorities.
- NASA - See Handbook NHB 2200.2.
- NTIS - Leave blank.

Block 12b. Distribution Code.

- DOD - Leave blank.
- DOE - Enter DOE distribution categories from the Standard Distribution for Unclassified Scientific and Technical Reports.
- NASA - Leave blank.
- NTIS - Leave blank.

Block 13. Abstract. Include a brief *(Maximum 200 words)* factual summary of the most significant information contained in the report.

Block 14. Subject Terms. Keywords or phrases identifying major subjects in the report.

Block 15. Number of Pages. Enter the total number of pages.

Block 16. Price Code. Enter appropriate price code *(NTIS only)*.

Blocks 17. - 19. Security Classifications. Self-explanatory. Enter U.S. Security Classification in accordance with U.S. Security Regulations (i.e., UNCLASSIFIED). If form contains classified information, stamp classification on the top and bottom of the page.

Block 20. Limitation of Abstract. This block must be completed to assign a limitation to the abstract. Enter either UL (unlimited) or SAR (same as report). An entry in this block is necessary if the abstract is to be limited. If blank, the abstract is assumed to be unlimited.

THE OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D C 20301-4000

FORCE MANAGEMENT
AND PERSONNEL

Makah Tribal Council Members
Neah Bay, Washington

In February 1986, the Air Force asked the Office of Economic Adjustment (OEA) to initiate a reuse study for the Makah Air Force Station which is scheduled for closure in 1988.

This document identifies potential reuse plans for the facilities at the Air Force Station. The candidate alternatives provide activities that have the potential to generate revenues that would more than replace those associated with the Air Force presence at this installation.

The Office of Economic Adjustment and the Department of Defense encourages you to use the information in this plan to actively pursue reuse of these facilities. We are pleased to have been able to help.

Robert M. Rauner
Director
Office of Economic Adjustment

ACKNOWLEDGEMENTS

Under the sponsorship of the Office of Economic Adjustment (OEA), Department of Defense, this reuse plan was prepared for the Makah Tribal Council, Neah Bay, Washington, by David M. Dornbusch & Company. Charles G. Ellington and Richard R. Kinnier, OEA West Coast Regional Directors, and Colonel Rand Brandt, Air Force liaison to OEA, were responsible for directing the effort resulting in this plan.

The Office of Economic Adjustment acknowledges the assistance received from the Air Force, the Makah Tribal Council, Regional Economic Adjustment Committee members, and state personnel who shared their expertise and insight. OEA is especially appreciative of the cooperation and enthusiasm of Lieutenant Colonel Pete Rose, Commander of Makah Air Force Station, and George Bowechop, Tribal Chairman, Makah Tribal Council.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF EXHIBITS

TABLE OF TABLES

EXECUTIVE SUMMARY

Background

The Air Force is planning to vacate the Makah Air Force Station at Neah Bay, Washington in June 1988. The site is presently leased from the Makah Indian Tribe and private parties, who will lose a total annual income of $221,883 when the site is vacated. Although the FAA will lease a small portion of the vacated Air Force facilities, the net loss in lease income and other economic and social benefits represent a significant economic loss to the tribe.

The Air Force will donate all of the station's structures and supporting utilities to the Makah Tribe, and the purpose of this study was to analyze the station's potential for re-use and prepare a re-use plan.

Setting

The station is located on the northwestern tip of the Olympic Peninsula. It is in a beautiful setting, with rocky headlands, sandy beaches and nearby rugged mountains of up to 2,000 feet in elevation. The station's buildings and facilities represent a self-contained village where a community of about 250 people can live, work, and recreate. It has its own sewer system and sewage treatment plant, water supply, heating system, and electrical distribution system. All of the buildings and facilities were found to be in good or excellent condition.

Potential Re-Uses

The original intention was to choose a single re-use plan from three alternatives. However, at the time we prepared the alternative plans, the tribe could not be confident of being able to implement any particular plan. Therefore, we recommended, and the tribe agreed, to retain consideration of all three plans. They are:

An **Educational Institution,** providing education and research for college and university students, might be developed under a number of possible approaches. One option would be to provide facilities for a university sponsored satellite campus, and its potential study disciplines include marine and terrestrial biology, archaeology and anthropology, geology, ocean sciences, wilderness training, cultural enrichment, Native American arts, and forestry management.

The research and education might be provided through a satellite campus of Washington State University or a consortium of universities in the state, such as Western Washington, Evergreen, and Central Washington Universities, and it might be oriented exclusively to upper division baccalaureate level and graduate level courses.

Another option would be a community college, either open for all area residents or exclusively dedicated to local Indian tribes. There is support for such a community college among the nearby communities, and staff of the new West Clallam Correctional Facility at Clallam Bay have expressed an interest in higher education classes. There is also a sufficient Indian population in the region to support an exclusively Indian community college.

Some combination of university research/education and either region-wide or Indian community college education facility would also be possible, and the facilities could support a total student population of 200 to as many as 500.

A **Tribal Center** might be developed in combination with a **Center for Conferences, Retreats, and Recreation.** The principal facilities normally provided at Tribal Centers already exist, and such a facility could be created with minimal improvements necessary. However, since a Tribal Center would not be a revenue producer, we suggest incorporating it with other compatible uses that would generate income for the tribe.

One such complementary use is a conference/retreat facility where corporate, church, or other groups might pay for meeting rooms, transient housing, and dining services. Another complementary use would be a recreation facility where transients could take advantage of the region's natural beauty and recreation opportunities also paying to use the station's transient housing and dining facilities.

There is not a sufficient market to make either a conference/retreat operation or a recreation operation viable on its own. However, the tribal activities would provide a cultural attraction not commonly available to other conference/retreat or recreation-oriented facilities, and the recreation facility would also enhance the attractiveness of the conference/retreat facility.

The conference/retreat and recreation functions might also be operated in conjunction with the education facility of the first re-use option. Both functions are often a part of an educational institution, and the research and educational curricula would be an additional attraction for meetings and conferences. Such a use mix would also take maximum advantage of the facilities, since the recreation demand would occur almost exclusively during the summer months when the education functions might be relatively inactive.

The third option identified was an **Alcohol and Drug Abuse Treatment Center** combined with **Vocational Rehabilitation.** The facility would provide alcohol and drug abuse treatment for both adults and youths. Child care facilities would be provided for dependent toddlers. Boarding school facilities would be provided for older youths from dysfunctional families. To enhance patients' ability to support themselves upon re-entry to their community, vocational rehabilitation would also be provided.

The facility might also be used for training counselors under contract to colleges and universities in Washington State.

Because it may take some time to develop any of the re-uses described above, it would be desirable to find a means for generating revenues immediately upon the Air Force's evacuation. Housing in the region is in very short supply, and an excellent opportunity for generating immediate revenues appears to be from **renting the station's housing and recreational vehicle spaces.**

Economic Benefits

We estimated that the combined annual revenues from housing and RV rental would be about $290 thousand. However, the annual cost for operating and maintaining

the buildings and utilities would probably be as much as $400 thousand. Therefore, if the Makah Tribe had to finance the cost of maintaining the station's buildings and facilities while waiting for a new use to be implemented, renting the housing and RV spaces would, at best, enable the tribe to break even.

However, once one of the three re-uses of the entire facility was implemented, the net annual economic benefits to the community would be on the order of $400-$500 thousand, with about two-thirds of this amount accruing directly to the Makah Tribe. The benefits would be highest for the educational/research facility.

Implementation

In addition to a number of immediate improvements to the buildings and facilities, we describe the tasks which should comprise the immediate implementation of a re-use program.

I. INTRODUCTION

A. Background

The Air Force is planning to vacate the Makah Air Force Station at Neah Bay, Washington in June 1988. The site is presently leased from the Makah Indian Tribe and private parties, who will lose a total annual income of $221,883 when the site is vacated. In addition, the base employs a number of local residents and provides recreational opportunities for the Neah Bay community that are not otherwise available.

Although the FAA will operate a portion of the vacated Air Force facilities and pay the tribal government approximately $30 thousand for the annual lease on those facilities, the net loss in lease income and other economic and social benefits represent a significant impact to the tribe. Tribal unemployment is typically very high, and nearly half of the Indian population live in households classified below the federal poverty level.

Since the Air Force will donate all of the station's structures and supporting utilities to the Makah Tribe, the tribe has an opportunity to benefit from the re-use of the station. The purpose of this study was to analyze the station's potential for re-use and prepare a re-use plan.

B. The Setting

The Makah Air Force Station is located on the northwestern tip of the Olympic Peninsula in Clallam County, Washington. (See Exhibit 1.) It is 70 miles from the nearest major commercial center in Port Angeles and 150 miles from Seattle. The only access to the site is by Highway 112, a winding highway making the automobile trip from Seattle about five hours, or by boat or floatplane. There is no landing strip at the station, and the nearest airport is 15 miles away.

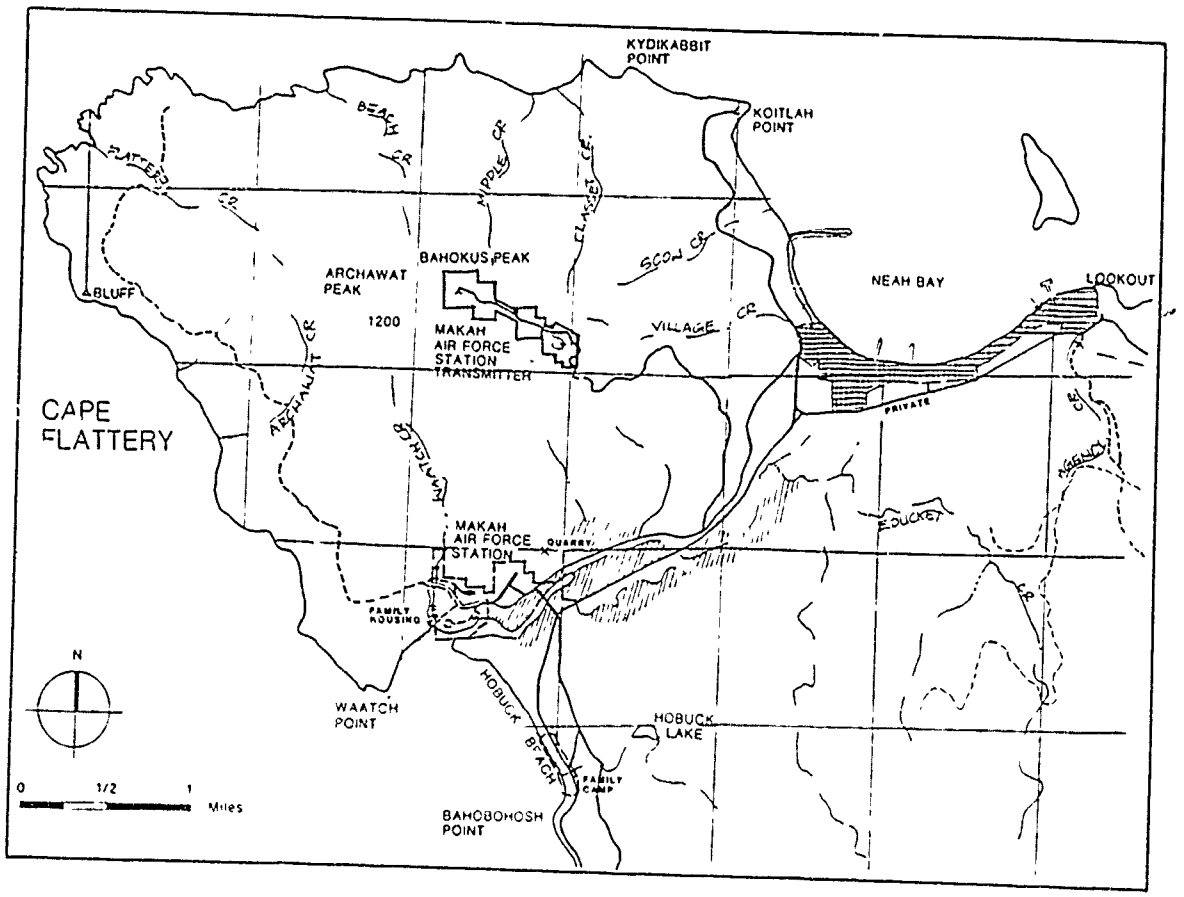
The site is also very beautiful, with rocky headlands, sandy beaches and nearby rugged mountains of up to 2,000 feet in elevation. It is bounded on the west by the Pacific Ocean and on the north by the Strait of Juan de Fuca. There is a large harbor protected by a breakwater at Neah Bay. The Waa[illegible] and Sooes Rivers run through the reservation and their valleys contain level and open lands which are used for livestock grazing. The region is heavily wooded and managed for the production of forest products.

C. The Study Process

We began our evaluation and analyses by inspecting the site and facilities and discussing concerns and possible ideas for re-use with the Makah Tribal Council and professional staff, representatives of the Air Force and Office of Economic Adjustment (U.S. Department of Defense), and representatives of the Bureau of Indian Affairs.

We reviewed the available plans and drawings of the station and performed analyses of the various site and facility conditions affecting the station's suitability and adaptability for re-use. We performed a market analysis to identify promising opportunities for re-use. of the station property.

EXHIBIT 1



CAPE FLATTERY AREA MAP

The findings of the market analysis, together with those of site and buildings/facilities analyses were used to develop three alternative conceptual master development site plans and design analyses. These were presented to the Makah Tribal Council, the tribe's professional staff, representatives of the Air Force and Office of Economic Adjustment, representatives of the Bureau of Indian Affairs, as well as to other interested individuals, including representatives of the State of Washington and the United States Congress.

The original intention was to choose a single re-use plan from the three alternatives presented. However, since at the time we prepared the alternative plans the tribe could not be confident of being able to implement any particular plan, we recommended and the tribe agreed to retain consideration of all three plans. Therefore, all three recommended re-use plans are described in this report.

D. The Study Team

The study was performed by:

David M. Dornbusch & Company, Inc. (prime contractor)
- David M. Dornbusch - technical and administrative direction and market and economic analyses
- James P. Merchant - market and economic analyses

Fred Glick Associates
- Fred Glick - site evaluations and planning analyses
- Elizabeth Payne - site evaluations and planning analyses
- Vivianne Gould - graphic illustrations

Seton, Johnson & O'Dell, Inc.
- Julius S. Horvath - structural engineering
- Mark B. Wharry - civil engineering
- Allen M. Robertson - electrical engineering
- Steven R. Kind - mechanical engineering
- Gary E. Converse - architecture

R. E. Hansen Associates
- Reed E. Hansen - market and economic analyses

The contract was administered by the Office of Economic Adjustment, U.S. Department of Defense, with administrative and technical guidance provided by Col. Randy Brandt in Washington, D.C. and originally by Charles E. Ellington and later by Richard R. Kinnier in Seattle. Gary Kuwabara, U.S. Air Force Planner, McChord Air Force Base, provided the plans and drawings of the station's facilities and indicated key issues to be addressed.

Col. Pete Rose, Commanding Officer of the Makah Air Force Station, provided assistance throughout the project, acquainting the team with the natural and man-made features of the site and station and making valuable suggestions regarding the possibilities and facilities' potential for accommodating various re-uses.

George C. Bowechop (Chairman of the Makah Tribal Council), Bill Johnson (Makah Tribal Council Member), A. Thomas Di Domenico (the tribe's Natural Resources and Economic Development Director), Don Dillard (the tribe's Realty Officer), and Frank R. Jozwiak (the tribal attorney with Pirtle, Morisset, Schlosser & Ayer) provided suggestions and guidance on all aspects of the study, particularly guiding the team in focusing on re-uses which would meet the tribe's objectives and satisfy its concerns.

Ray Maldonado and Ray Strong, of the Bureau of Indian Affairs, indicated key issues of concern to the Bureau.

II. SITE ANALYSIS

A. Woodlands, Topography, and Water Features

The site's woodlands, topography, and water features are illustrated in Exhibit 2.

1. Woodlands

The site is located at the foot of a forested hillside. The hillsides to the north have been recently clear-cut. The scar is still evident from Government Road. The site is buffered by a stand of alder growing along the swale at the northern edge of the cantonment area.

2. Topography

The site is relatively flat, bounded on the north and west by steep terrain. Ditches have been dug to drain the ground water away from the buildings and toward the Waatch River to the southeast.

3. Water Features

On-site water features are limited to a shallow drainage ditch, which runs along the northeast edge of the Cantonment area and a storm drainage ditch which parallels the ridge and runs along the northwest side to the road. Lowlying areas in the open field south of the site fill with water when the ground water table is high. Off-site water features include the Waatch River and its estuary to the southeast and the Pacific Ocean and its beaches to the west. Waterfalls and streams can be found in the immediate off-site area.

B. Scenic Values and Visual Character

The site's scenic values and visual character are illustrated in Exhibit 3.

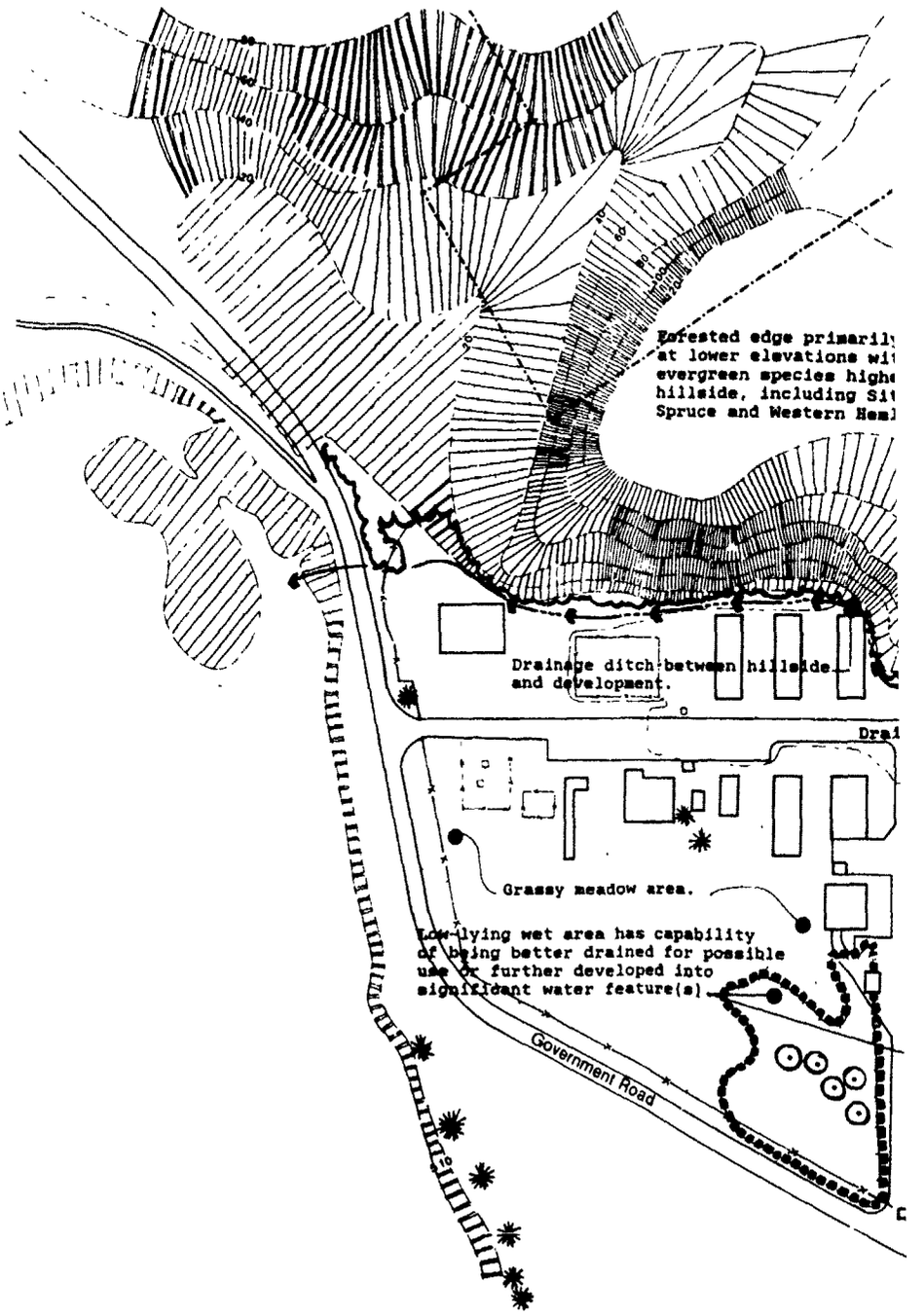
The primary vehicular way parallels the ridge running northeast to southwest with the main entrance road entering perpendicular to the ridge. The majority of the structures and recreation facilities are located along this access, parallel to the northern hillside.

The main entry is from the southeast through an open grassy field. From the main entry, it is possible to view the Waatch River and its estuary to the southeast. It is also possible to hear the ocean breakers to the west, as the prevailing winds blow from the ocean across the site.

The scars from the 1987 clear-cut are visible on the steep hillside behind and to the north of the site. However, they are partly shielded from view by a stand of alder growing along the swale at the north edge of the site.

Looking southeast across the Waatch River and its estuary, there is a panoramic view of the surrounding hillsides. Many are forested. Some are presently being harvested. These hillsides provide a scenic backdrop for activities both on- and off-site. The hills also offer a panoramic view of the site, the Waatch River, estuary and the ocean.

WOODLANDS, TOPOGRAPHY & WATER FEATURE

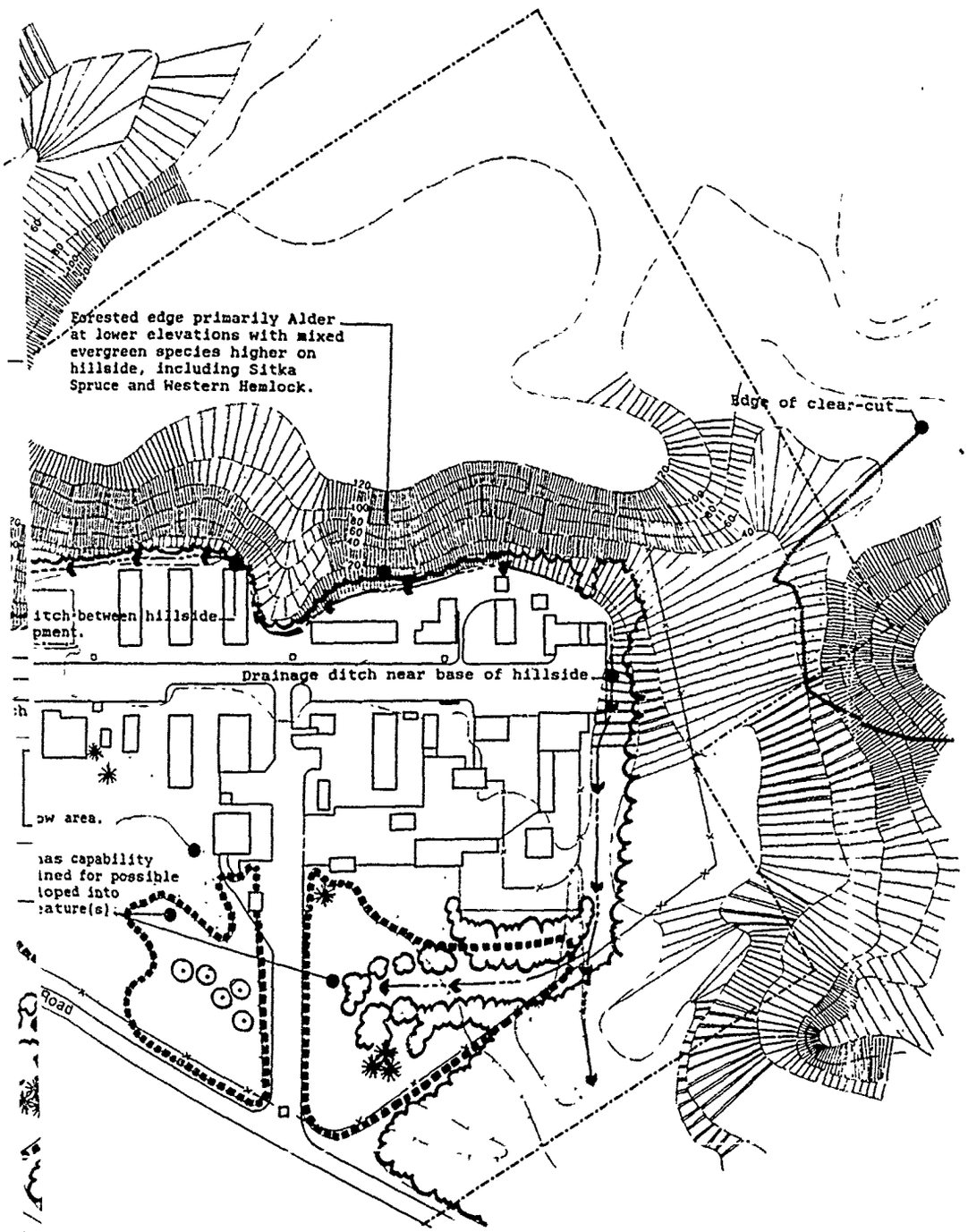


MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc., in association with Fred Glick Associates &

EXHIBIT 2

R FEATURES



LEGEND

- Property Line
- Existing Contour
- Fence line
- Building wall
- Edge of pavement
- 0-5% slope
- 6-15% slope
- 16-30% slope
- 31-60% slope
- 61-90% slope
- Isolated conifers
- Isolated deciduous

GENERAL NOTES

1 Map copied from plan and survey provided by Fairchild Aerial Surveys to the Department of the Air Force Air Defense Command, Makah Air Force Station (Sheet 1 of 4)

2 Master Planning Directive 57-52 Contract No AF 05(604)-71 June 17, 1958

3 Modifications have been provided by Fred Glick Associates Portland, Oregon, based upon on-site visual field investigations made Oct 8-9, 1987

4. CLIMATIC CONDITIONS
Prevailing winter winds out of the southwest exceed 8mph 2/3 of the year
Summer winds out of the east
Annual precipitation at Tatoosh averages 80 inches per year
Mean annual daily temperature is 56°F in August and a mild 39°F in December

6. SOILS & GEOLOGY
Based upon generalized maps prepared by Pacific Rim Planners, Inc., Seattle, WA in 1980, there is severe soil erosion potential in the Makah AFS area
The area geologically is predominantly sandstone and conglomerate

AN

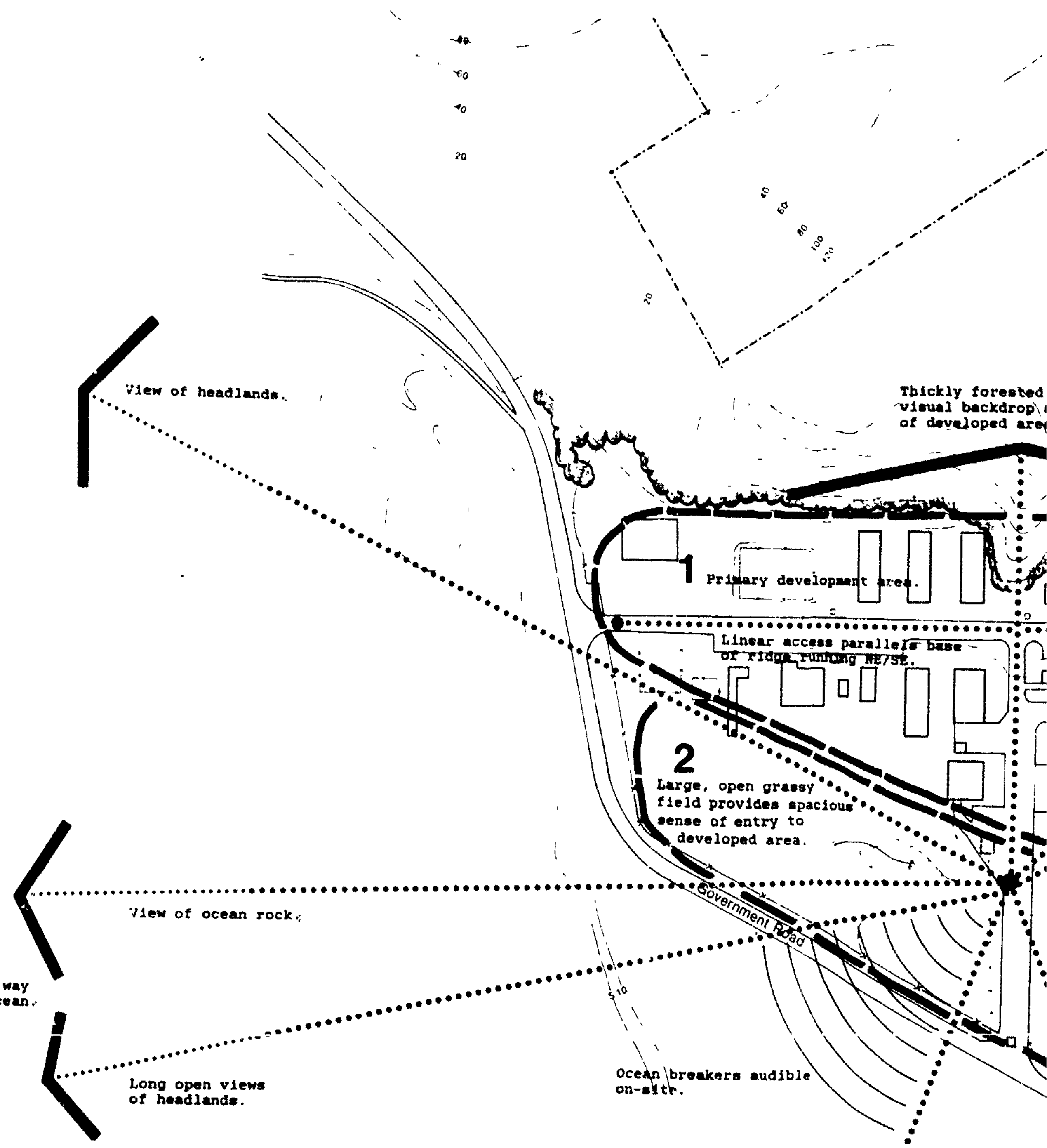
0 50 100 200 400
Scale in feet

N

Glick Associates & Seton, Johnson & Odell Inc.,

OCT. 1987

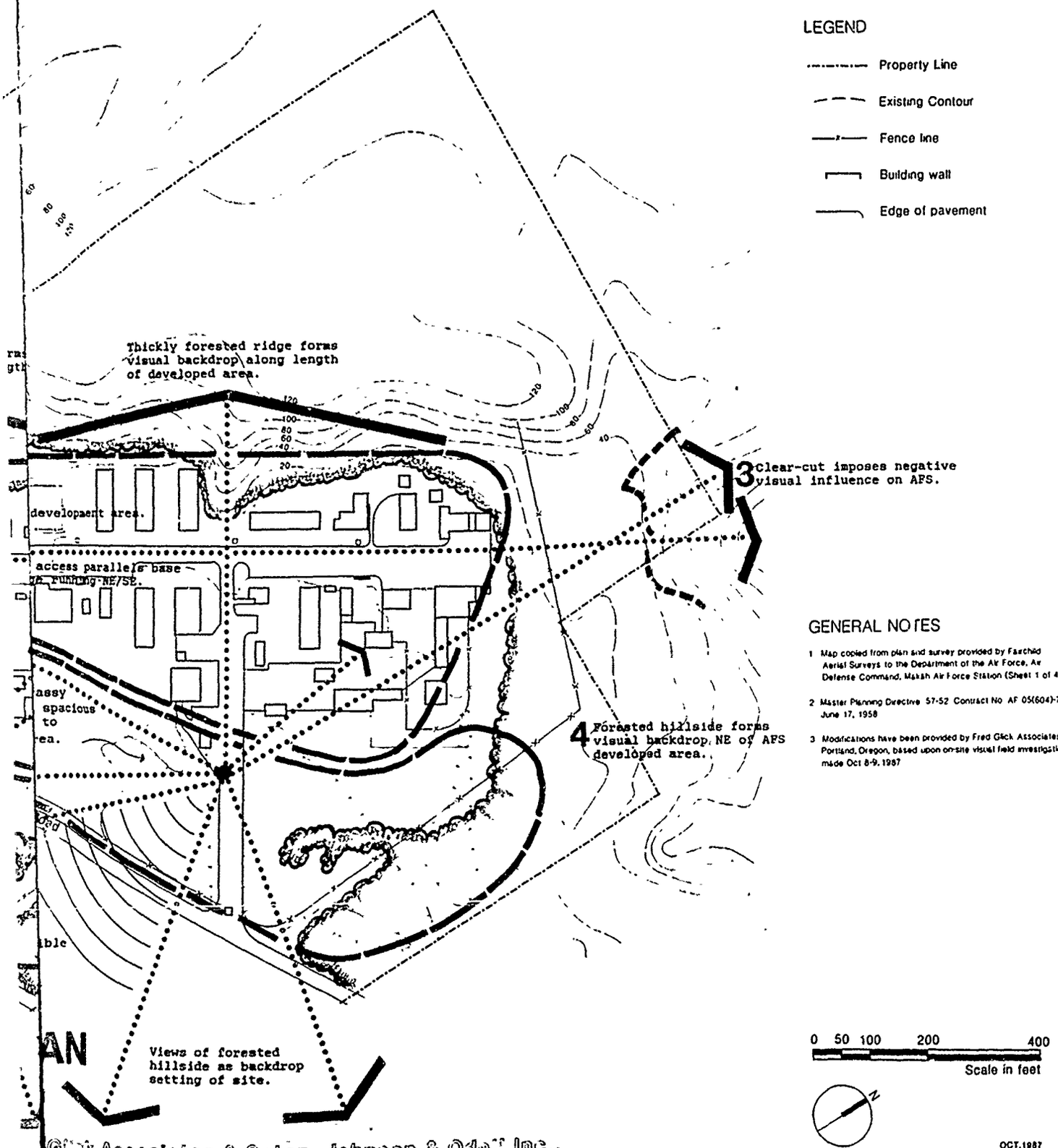
SCENIC VALUES & VISUAL CHARACTER



MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc., in association with Fred Glick Associates & ...

EXHIBIT 3



Glick Associates & Seton, Johnson & Odell Inc.

Sea birds and other wildlife use the site because of its proximity to the estuary and beach area.

C. Circulation

The site's circulation is illustrated in Exhibit 4.

1. Vehicular Circulation

Primary vehicular circulation to the site is along Government Road which connects the site with the housing areas to the west and then loops around the Cape Flattery Peninsula. Secondary vehicular circulation is internal to the site along a northeast-southwest access with the main road intersecting it near the center of the site.

2. Pedestrian Circulation

Pedestrian circulation on the site is limited to narrow sidewalks paralleling the roads and cutting across the lawn between major buildings. Above ground steam pipes often must be crossed by climbing over numerous stiles and ramps.

3. Parking on Site

There are approximately 170 parking spaces located along the roads and in small parking lots scattered throughout the site.

4. Entries

There are two entrances to the site. The main entrance is off Government Road on the southeast side of the site. It enters through an open field giving a good sense of the whole site set against the backdrop of the forested hillsides. The second entrance, near the west end of the site, is primarily a connector road to the housing area.

5. Major Vehicular Access

Primary vehicular access to the site is via Government Road from Neah Bay and to the housing areas to the west. Government Road bounds the site to the east, south and west cutting the site off from the Waatch River estuary and the beach.

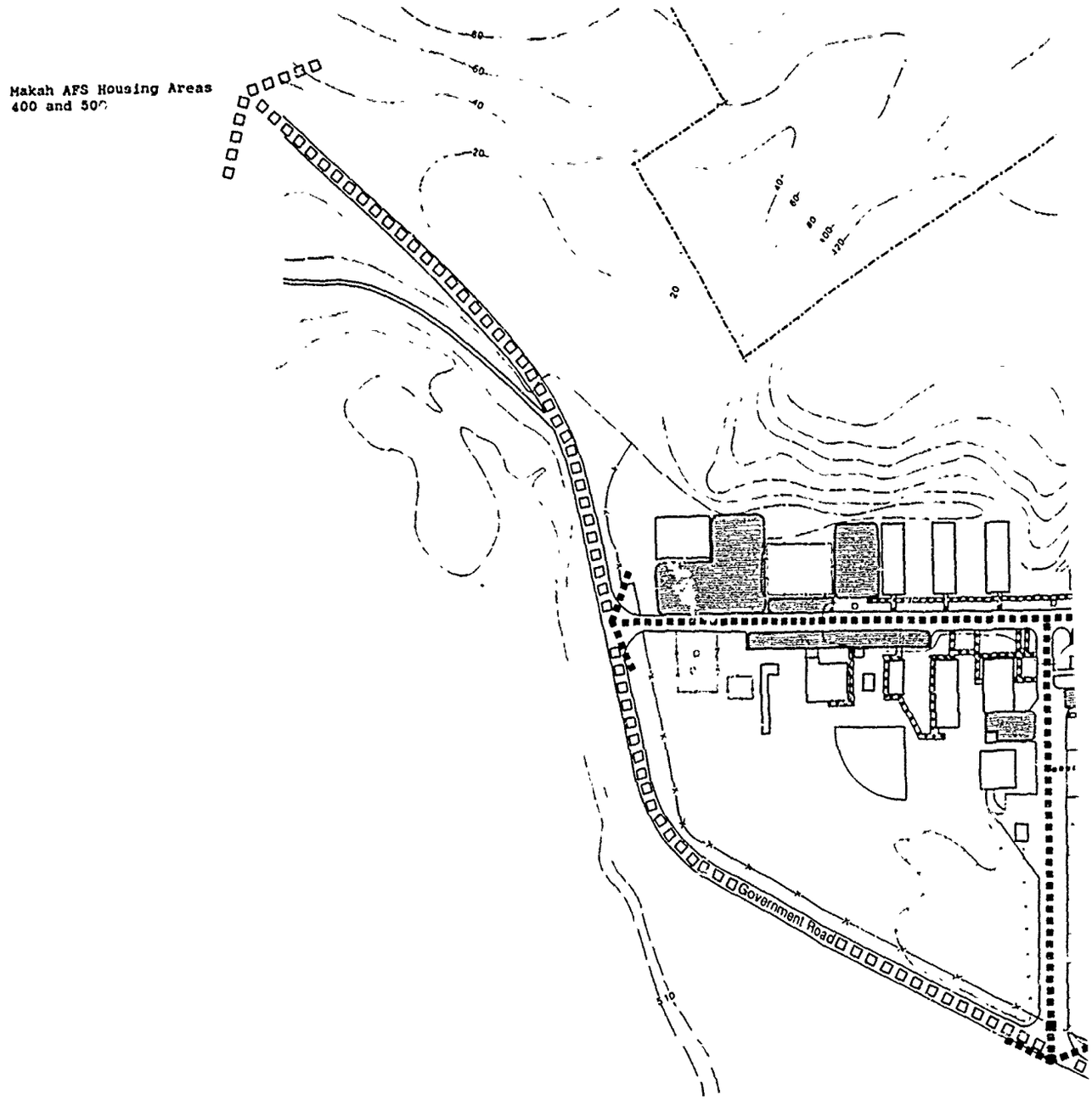
D. Buildings and Utilities

The site's buildings and utilities are illustrated in Exhibits 5 and 6.

1. Buildings

There are over twenty-five structures located in the cantonment area. The majority of these are in good condition and are located along the two internal roads. The buildings are one and two story structures with no basements, providing a self-contained community for approximately 250 people to live, work and recreate.

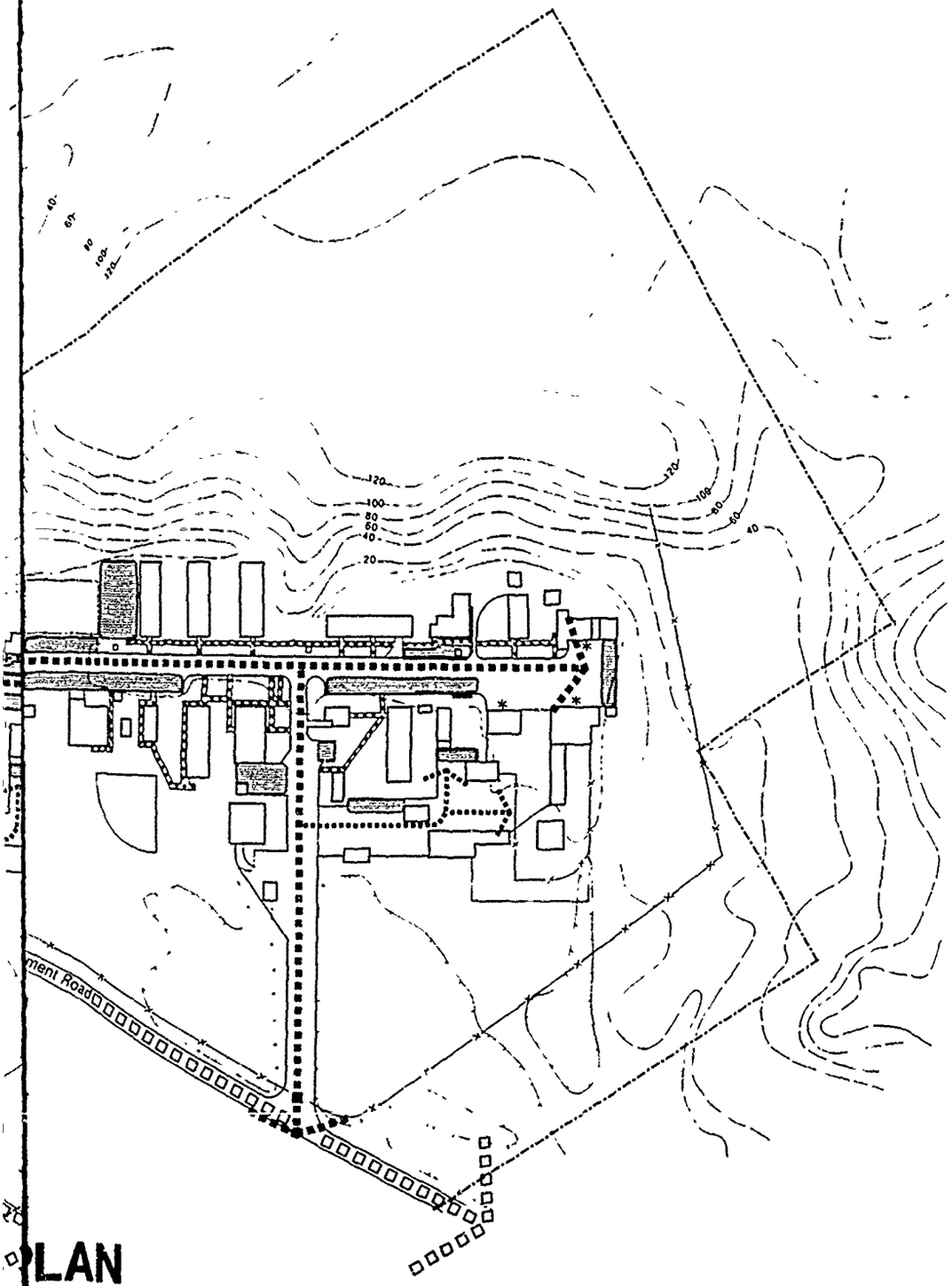
CIRCULATION



MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc., in association with Fred Glick Associates & C

EXHIBIT 4



LEGEND

- Property Line
- Existing Contour
- Fence line
- Building wall
- Edge of pavement
- Primary vehicular circulation
- Secondary vehicular circulation
- Pedestrian circulation
- Parking
- Major vehicular access
- * Garage access

GENERAL NOTES

1 Map copied from plan and survey provided by Fairchild Aerial Surveys to the Department of the Air Force, Air Defense Command, Makah Air Force Station (Sheet 1 of 4)

2 Master Planning Directive 57-52 Contract No AF 05(604)-71 June 17 1958

3 Modifications have been provided by Fred Glick Associates, Portland, Oregon, based upon on-site visual field investigations made Oct 8-9, 1987

LAN

0 50 100 200 400

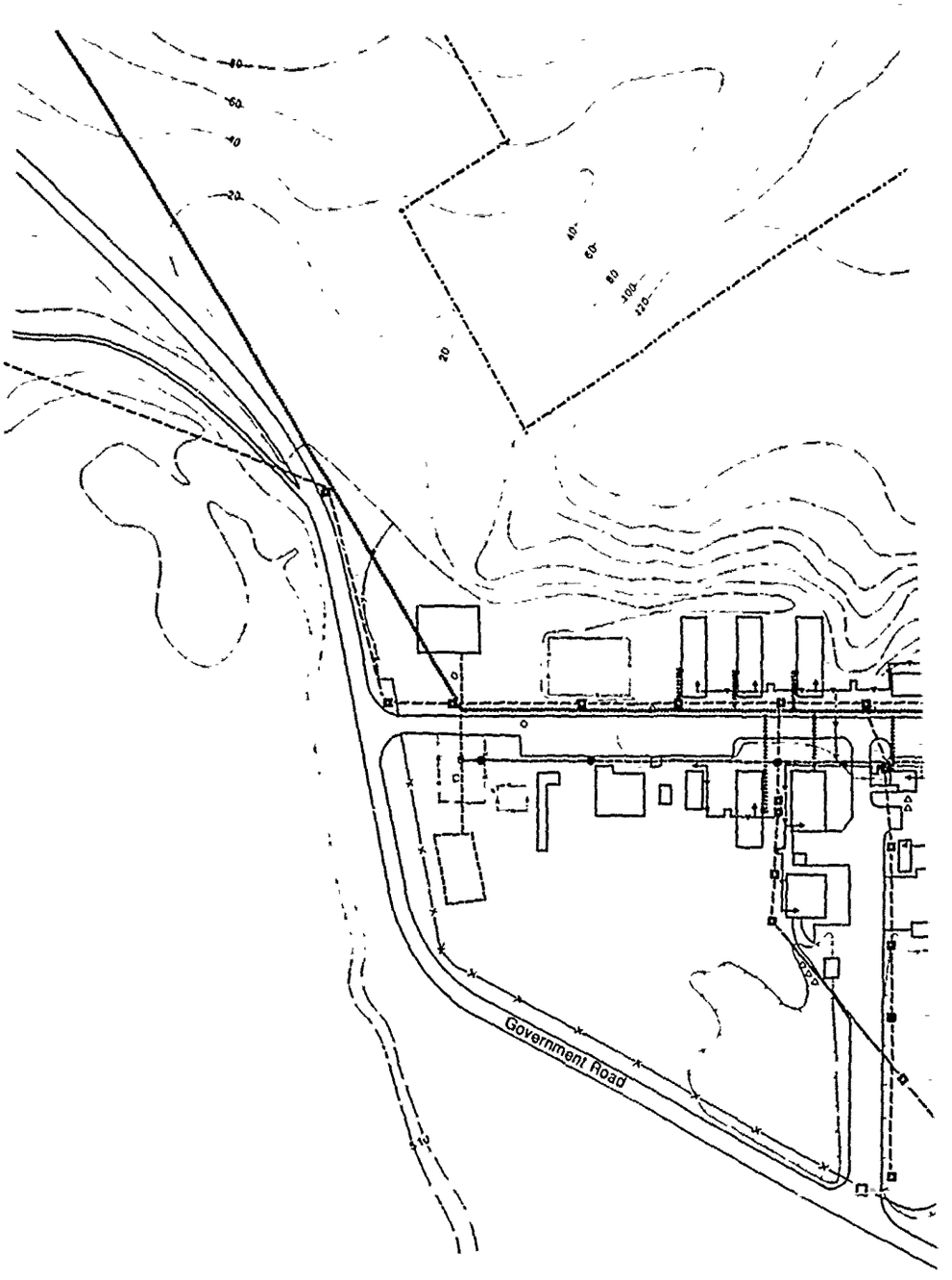
Scale in feet

N

ed Glick Associates & Seton, Johnson & Odell Inc.,

OCT. 1987

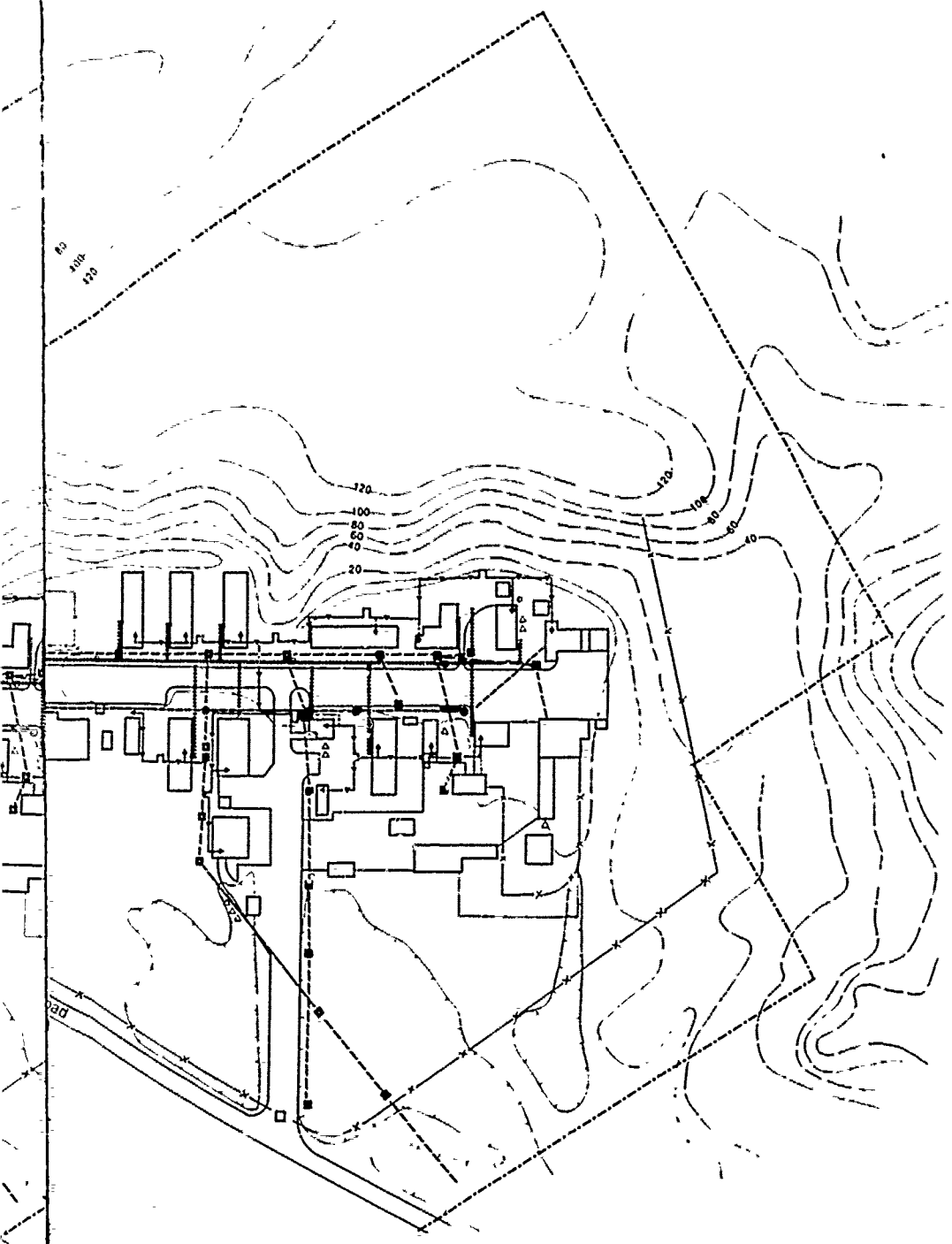
UTILITIES



MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared [illegible] & Company Inc., in association with Fred Glick Associates & Seto

EXHIBIT 5



LEGEND

- Property Line
- Existing Contour
- Fence line
- Building wall
- Edge of pavement
- Sewer line
- Water line
- Utility pole/line
- Fuel Tank
- Exposed HVAC piping
- Hazardous chemical waste tank
- Storm drainage

GENERAL NOTES

1. Map copied from plan and survey provided by Fairchild Aerial Surveys to the Department of the Air Force, Air Defense Command, Makah Air Force Station (Sheet 1 of 4)
2. Master Planning Directive 57-52, Contract No. AF 05(604)-71 June 17, 1958.
3. Modifications have been provided by Fred Glick Associates, Portland, Oregon, based upon on-site visual field investigations made Oct 8 9, 1987.

AN

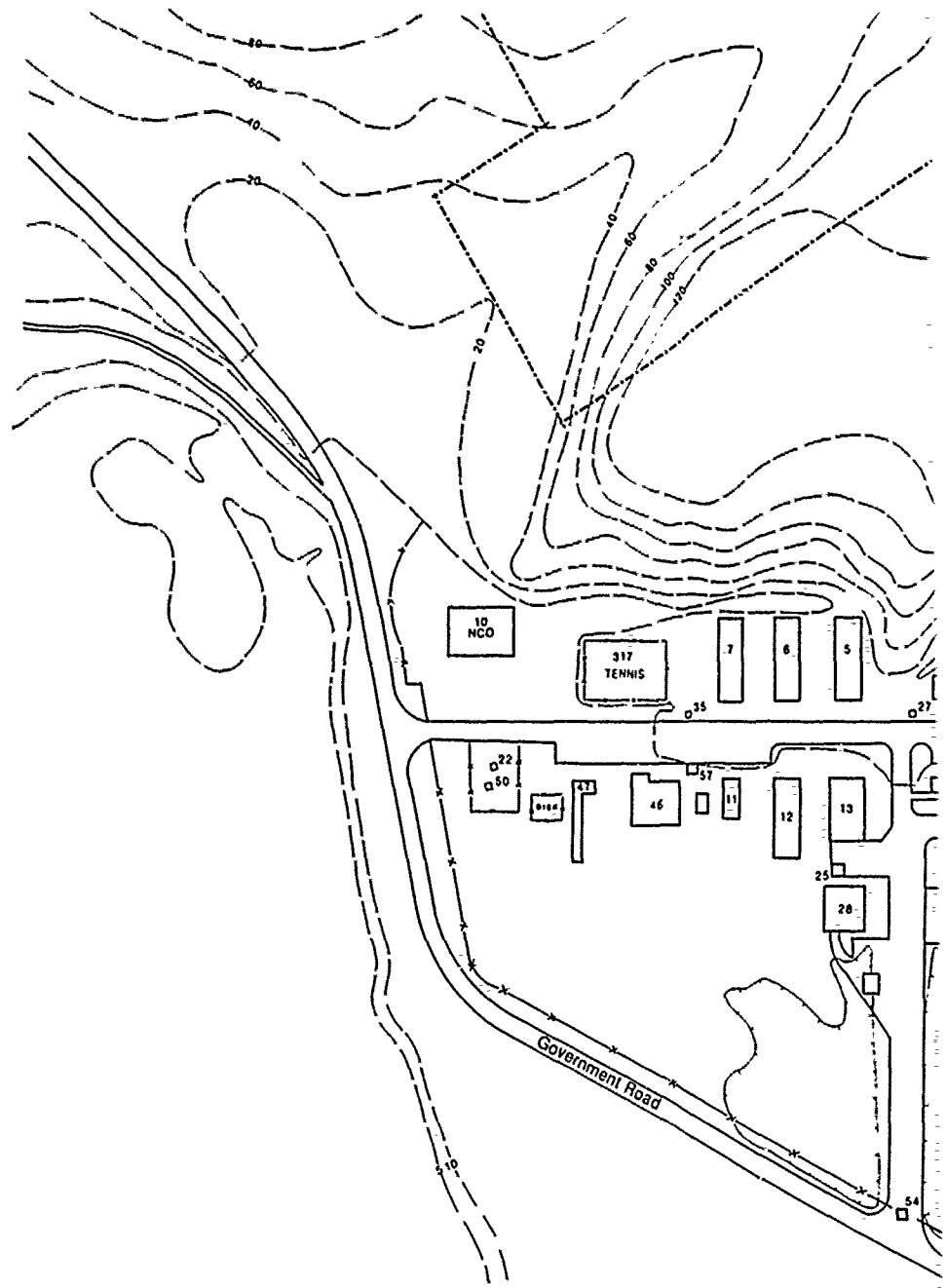
0 50 100 200 400
Scale in feet

N

Glick Associates & Seton, Johnson & Odell In

OCT. 1987

EXISTING BUILDINGS



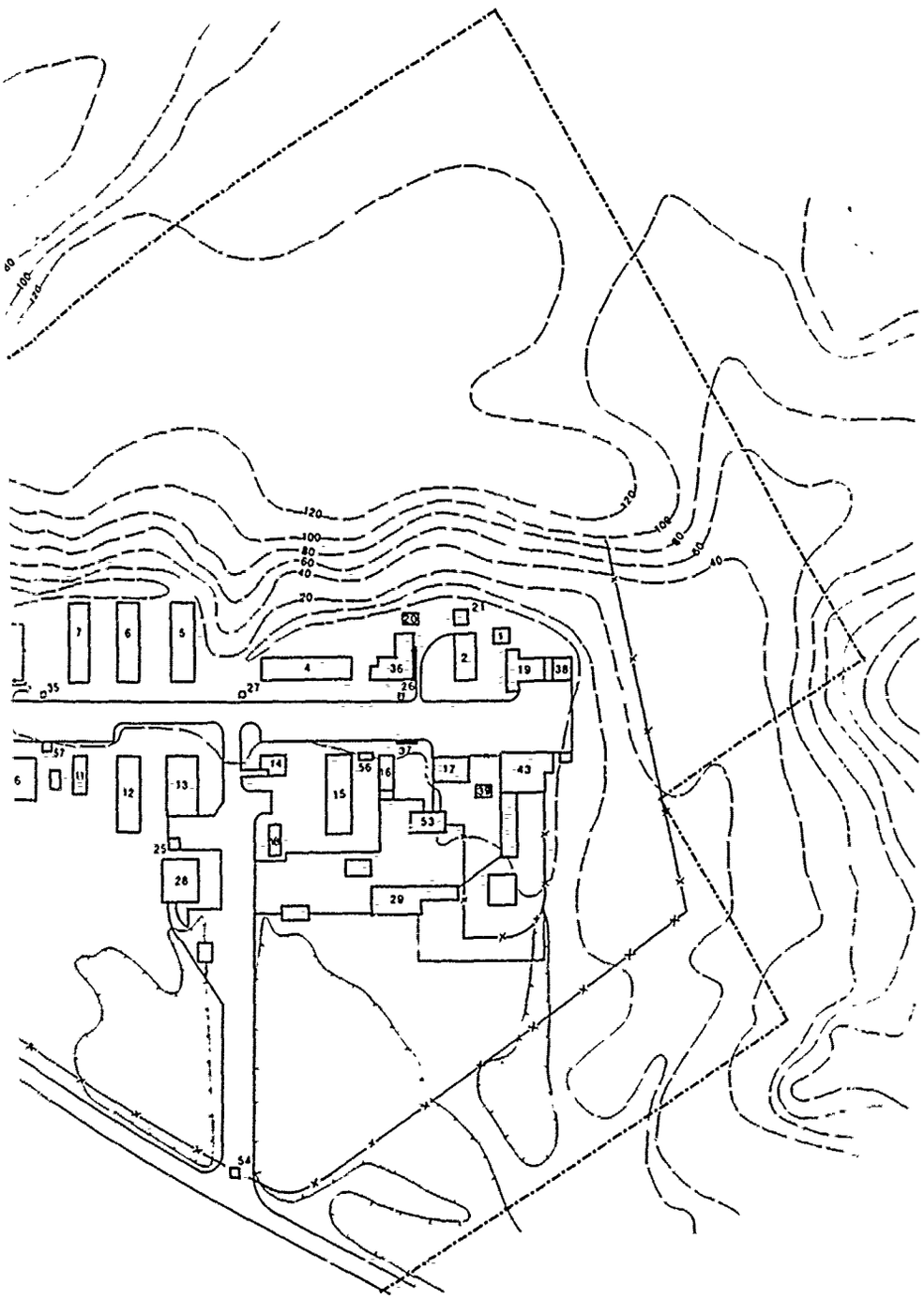
BUILDING USES

No	Existing Building Use
1	Storage
2	Warehouse
4	Headquarters
5	Dormitory
6	Dormitory
7	Dormitory
10	NCO Club
11	Arts and Crafts
12	Dormitory
13	Dining Hall
24	Heating Plant
25	Dormitory
26	Commissary Warehouse
27	Auto Maintenance Shop
28	Chapel
29	Civil Engineering
20	Paint, Oil, Grease Storage
21	Paint, Oil, Grease Storage
22	Sewage Treatment
25	Fire Hose House
27	Fire Hose House
28	Post Exchange
29	Boat Shelter
35	Fire Hose House
36	Commissary Store
37	Vehicle Fill Station
38	C.E. Maintenance Shop
39	Vehicle Fueling Shop
43	Shop and Storage Shed
46	Gymnasium and Lockers
47	Bowling Alley
50	Sewage Treatment
53	Auto Hobby Shop
317	Tennis Court

MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc.
In association with Fred Glick Associates: Seton, Johnson & Odell Inc.: R. E. Hansen Researc

EXHIBIT 6



LEGEND

- Property Line
- Existing Contour
- Fence line
- Building wall
- Edge of pavement

GENERAL NOTES

1. Map copied from plan and survey provided by Fairchild Aerial Surveys to the Department of the Air Force, Air Defense Command, Makah Air Force Station (Sheet 1 of 4)
2. Master Planning Directive 57-52, Contract No AF 05(604)-71 June 17, 1958.
3. Modifications have been provided by Fred Glick Associates, Portland, Oregon, based upon on-site visual field investigations made Oct 8 9, 1987

N

0 50 100 200 400

Scale in feet

OCT 1987

E. Hansen Research Associates Inc.

In the housing area, there are 27 permanent dwellings and 18 "relocatable" dwellings.

2. Sewer

A sewage treatment plant serves the cantonment and housing areas. The main sewer line runs parallel to the ridge on the southeast side of the road and empties into the pump station near the southwest end of the site. Sewage is then pumped to an off-site sewage treatment station near the housing units.

3. Water

Water for the site originates at a reservoir on Waatch Creek west of the site, where it is treated and distributed via a pipe system to the cantonment and housing areas.

4. Power

Electricity is supplied by the Clallam County Public Utility District. Power enters the site from the east along Government Road right-of-way on utility poles. At the present time, the Air Force maintains the on-site electrical distribution system also using utility poles.

5. Storage Tanks

There are numerous petroleum tanks buried near the storage sheds and vehicle maintenance shops on the north end of the site. Several chemical tanks and a "blind" tank are buried in the same area.

6. Heating

A heating plant supplies heat to all the buildings in the cantonment, except the NCO Club and the bowling alley, through above ground steam pipes. These pipes criss-cross the site, often crossing the sidewalk pedestrian circulation system, which includes ramps and stiles to cross the pipes.

III. FACILITIES ANALYSIS

The following presents an overview and analysis of the station's facilities, focusing on their conditions with respect to civil, structural, mechanical, and electrical engineering considerations and including an identification of potential environmental problems. Appendix A includes a complete inventory of the station's buildings and facilities.

A. Civil Overview

The site of the Makah Air Force Station consists of several separate areas. The "cantonment area" comprises the main center of the base. All of the dormitories, dining and recreation facilities, administration offices, and vehicle and storage buildings are located there. The independent housing for the station is a separate area approximately one quarter mile away. In addition, there is a reservoir and water treatment plant, water storage tanks, and a sewage treatment facility which are all in separate locations, and are not part of the main cantonment area.

From a civil engineering standpoint, there are several areas of concern. First, the site is in need of a drainage system. There is a small storm sewer and outfall at the southwest end of the station, but for the most part, the drainage system consists of surface runoff into ditches. It is good engineering and architectural practice to provide positive drainage away from the buildings. A storm sewer would help preserve the life of the buildings and alleviate problems with buried utilities. We recommend the installation of a storm sewer and french drains along the main street. A soils investigation would need to be performed to analyze the effects of lowering the water table and changing the surface drainage patterns.

Second, the sewage treatment plant is operating at approximately the load for which it was designed. The average flow is 30,000 gpd and the plant is designed for a minimum flow of 20,000 gpd to a maximum of 40,000 gpd. Based on a design figure of 150 gpd per person, the plant would support a maximum of around 200 people living at the station. In addition, there has historically been a problem with infiltration into the pipes. The flow rate through the plant rises with the amount of rainfall and a corresponding rise in the water table.

Thus, either the infiltration problem would need to be remedied, or the capacity of the plant would have to be expanded.

Third, the reservoir for water storage is an earth fill dam with steel sheet piling. Immediately downstream of the dam is the water treatment building and, further downstream, the drainage opens into the housing area. At this time, there is no facility for an overflow channel for the dam. In the past, during times of heavy spring rains, sandbags have been placed along the dam to prevent flooding of the housing area. Although this is not a yearly occurrence, and may only happen once every five to ten years, some sort of overflow channel should be developed.

Aside from these three areas, the site appears to be in good condition. The facilities have been maintained and repaired as needed over the years. More detailed comments concerning individual buildings appear in the building inventory.

B. Structural Overview

Structures at the site are subjected to a design wind loading of 80 to 100 mph (prevailing from the southwest). The average rainfall is 81 inches per year with fog present much of the time. It is a wet climate and wood structures, if not adequately protected, are particularly susceptible to dry rot.

Dry rot does exist in the relocatable housing (as mentioned in the building inventory). It has also been detected in some isolated instances in some of the cantonment buildings.

For the most part, however, the buildings are in very good shape. As a result of recent renovation efforts, there are vapor barriers under most of the floors and all of the buildings have been painted. There is some evidence here and there of rusting of metal siding and small cosmetic defects. The base, as a whole, has been well maintained and is structurally sound.

C. Mechanical Overview

The entire station (except the family housing area, the NCO club and the bowling alley) is supplied low pressure steam from a central distribution system. Steam is supplied to the distribution system by three (3) oil-fired, fire tube boilers, located in a central plant. Each boiler is rated at 33 h.p. (approx. 1,000,000 btu/hr) at 30 psi delivery pressure. Two underground storage tanks supply #2 fuel oil to the boilers. Total storage capacity is 18,000 gallons.

The boilers are in excellent condition. Each boiler was refitted with flame retention type burners approximately three years ago.

Steam distribution to the various buildings is by overhead and ground mounted piping. A high wintertime water table was the explanation for using the exposed piping systems. Overall the district heating system is in excellent condition.

Overall maintenance of the site's mechanical systems is excellent. Much better than anticipated.

D. Electrical Overview

1. Distribution

The pole line and pole mounted transformers have been upgraded over the past 15 years. Existing transformers range from 1 to 15 years old. Life expectancy of the transformers is 20 years. Approximate replacement costs per 50 kva transformer is $2,500 each.

The Corp of Engineers is in the process of preparing a contract for a consultant to check the transformers for PCB content.

Mike McGinnis, Superintendent of the Clallam County Public Utility District No. 1, in Port Angeles, inspected the station in order to establish if the PUD would be interested in taking over the electrical system. He concluded that the PUD would

not be interested in acquiring the system until the station contained a viable revenue producer that would offset the operating costs.

The Air Force intends to remove the existing 300 kw backup generator. It is a manual start type. The air break disconnect coming into the station must be manually opened to avoid back feeding the line. We suggest adding an automatic transfer switch. The generator also supplies the Family Housing.

The existing tennis court has no exterior lighting. H.P.S. lighting could be considered in an upgrade.

The branch circuit panel boards are adequate for their existing function. They vary in age from 1 to 15 years old. Most buildings have single phase, 240/120V, 3-wire. Larger buildings have 240/120V and 208/120V, three phase, 4-wire. Life expectancy of panel boards is 20 years. Panels over 10 years old should be upgraded as spare circuit breakers are difficult to purchase.

Interior fluorescent and incandescent lighting is adequate. Fluorescent ballasts should be checked for PCB if installed prior to 1972. Removal of ballast is not required unless PCB is dripping out. If PCB is escaping it is most cost effective to replace the whole fixture. The lighting in the Gymnasium, Racquetball Court and Bowling Alley is adequate.

Emergency lighting is via wall mounted battery operated units. Most exit signs have battery backup. Those that do not, should be upgraded.

2. Special Systems

The telephone system is adequate for now and probably the future. Approximately 200 lines come into the station on the power pole line. The lines terminate in a branch exchange panel mounted on a power pole at ground level which in turn feeds three terminal cabinets mounted on the same pole. Of these 200 lines, approximately 20 are utilized. There is a microwave repeater consolidated with the FAA. Computer data transfer is available via this land and microwave route.

Intercom is via telephone handset within and between buildings.

There is an interior speaker system in the dining rooms and club.

Exterior public address speakers are mounted on poles at the main base and housing only. Communication is via radio transmitter.

A security alarm is present in the commissary, warehouse and safe room.

Not all buildings have a sprinkler system. Those without sprinklers have a detection system. Each building is independently monitored with its own fire alarm/annunciator panel, heat/smoke detectors, pull stations, horns and bells.

The trailer court has a fire phone located close to the entrance.

More smoke detectors should be installed in the dormitory hallways on 30 ft. centers.

E. Environmental Overview

In August of 1987, an Environmental Assessment was prepared for the proposed inactivation of the station. This study accounts for many of the existing environmental concerns such as underground storage tanks and the presence of asbestos. Nonetheless, an environmental audit of the cantonment area for re-use should address the following areas:

1. Sampling and determination of all siding, tile, and insulation (building and pipe) for asbestos.

2. Soil investigation in areas of underground storage tanks for evidence of leakage. Investigate, in particular, Tank G, which was used as a "blind tank" for waste chemicals and pesticide rinse.

3. Testing of transformer oils for PCB.

IV. MARKET ANALYSIS

A. Use Alternatives

The purpose of the market analysis was to identify the most promising uses for the site. A preliminary list of alternative uses was compiled based upon suggestions from federal officials, Makah Tribal Council members and professional staff, local and State officials, and residents of the area as well as our own knowledge of the area and its development opportunities.

We performed a preliminary screening to eliminate those uses which appeared to have virtually no potential for implementation (based upon market conditions), were incompatible with the natural features and man-made structures of the site, or were rejected by the tribe. Two economic criteria were of primary importance to the Makah Tribe. The first was to maintain the premises as a single economic unit. The property is under multiple ownership (33 separate tracts of land having 102 individual owners), and a single use (or user) would avoid possible conflicts over the distribution of benefits and allocation of costs.

The second major concern was the economic benefits that would be generated for the tribe and land owners. Annual income lost from the Air Force will amount to nearly $220 thousand, of which about 60 percent accrues to the tribal government and the remainder to individual members of the tribe. In addition, the tribal population has experienced high unemployment and over 49 percent of the Indian population lives in households classified below the federal poverty level. The tribe is very interested in a re-use that will generate substantial rental revenues as well as jobs and income for its members.

Uses considered but rejected for the above reasons included forestry, manufacturing (including defense-related), fishing, fish processing, prison facilities, or a waste disposal site.

Those uses felt to offer some promise were organized into the following categories:

- Religious retreat
- Art center
- Private or public campground/RV park
- Destination resort/conference center
- Higher education facility
- Scientific research facility
- Drug & alcohol abuse treatment/vocational rehabilitation center
- Tribal center/meeting/recreation facility
- Military facility
- Rental of on-base housing and mobile home pads

B. Organizations Contacted

We then contacted numerous groups which might be interested in establishing the various uses at the site. Telephone communication, written correspondence (including mail-out questionnaires), and personal interviews were the principal means of contacting potential users.

1. Religious Organizations

A number of religious organizations were identified who currently conduct activities in remote locations. Initially, these organizations were contacted by telephone regarding their interest in establishing a religious retreat, youth services, a missionary training facility, or campground at a new location such as Neah Bay. For those that indicated an interest, we sent a questionnaire to obtain more specific information about the nature of their possible uses.

Eighteen organizations were contacted by telephone and the following five were sent questionnaires.

* Northwest Puget Sound Presbyterian - Everett, Washington
* United Church of Christ Conference - Seattle, Washington
* Fuller Theological Seminary - Seattle, Washington
* Northwest Theological Union - Seattle, Washington
* Young Life - Des Moines, Washington

In addition, based on an inquiry regarding the potential use of the air station site received by the Makah Tribe staff, we contacted Dennis Gunderson, Director of Youth With A Mission in Seattle.

Only two replies were received, but no questionnaires were completed. Mr. Gunderson indicated that his board of directors was considering the site, but he could not give us an indication of how seriousness their interest was.

Based upon current information, we concluded that potential use by a religious organization is low but nevertheless still a possibility.

2. Artist Groups

Ten art schools, departments of universities, and other related organizations were contacted by telephone regarding their possible interest in establishing an art education program at the site. The schools represented mainstream organizations, not Native American schools which are discussed separately below. Most indicated no interest, but a few requested a questionnaire, though none were returned completed. The organizations which requested a questionnaire were:

* Northwest College of Art - Poulsbo, Washington
* Antioch University - Seattle, Washington

Based on the low response to our inquiries, we concluded that permanent use of the air station property by a mainstream art school is a small possibility.

3. Public and Private Campground/RV Park Organizations

Both public and private organizations were contacted regarding the possible use of a portion of the site for use as a campground or RV park. All of the public organizations were sent a questionnaire. They include:

* YMCA - Seattle, Washington
* Boys and Girls Clubs - Seattle, Washington

* Boy Scouts of America - Seattle, Washington

No responses to the questionnaire were received.

Private organizations with whom we corresponded include:

* Thousand Trails - Bellevue, Washington
* KOA - Billings, Montana
* Park Washington, Inc. - Bothell, Washington

Among this group, only KOA replied, indicating that they do not develop campgrounds themselves, but assist people interested in developing such facilities through franchising operations.

In addition, we contacted Clallam County planning officials and local real estate agencies to obtain information on the market for RV parks. The information provided suggested that the RV park business is extremely seasonal in the Neah Bay area, although demand is strong during the summer and an RV park is potentially profitable. One new RV park has recently been permitted in the Clallam Bay area. Monthly rental for hookups at RV parks is between $100 and $125. Daily rates vary from $10 to $15 in the Clallam Bay/Sieku/Neah Bay areas.

We also contacted RV park development specialists in Washington and Oregon to obtain their opinion regarding the suitability of the Makah Air Station site as well as design criteria for establishing a facility. These sources corroborated that demand in the area is strong and, if designed and managed well, an RV park could be profitable.

Based on the available information, we conclude that an RV park does represent a promising opportunity, at least, during the peak summer season. This use, however, would require only a portion of the property (probably the existing family campground). Such a use is expected to be compatible with other uses of the Makah Air Station.

4. Destination Resort/Conference Center Development

Establishment of a high quality destination resort/conference center was mentioned as a re-use possibility. We pursued this candidate opportunity through contacts with local officials in Clallam County who are familiar with economic development issues, planners and developers, and by drawing upon our own experience with the hotel/lodging/conference industry in Washington and Oregon.

We personally interviewed two Clallam County officials, Lawrence Gaydeski, Commissioner of the Clallam County Board of Commissioners and Robert Levin, Executive Director of the Clallam County Economic Development Council. We questioned them about the need and potential locations for a resort/conference center in the county. They told us that serious proposals have recently been made for developing a resort/conference facility in Clallam County. Most of these proposals, however, are for locations in the eastern portion of the county. Mr. Gaydeski noted that Clallam County abounds with unique sites for a resort/conference center, including Neah Bay and La Push in western Clallam County. While most lie within the Olympic National Park, where development is

prohibited, some sites are developable and are not as difficult to access from the primary market areas as Neah Bay.

In addition, members of the research team have recently conducted studies of demand and financial feasibility for hotel/resort/conference facilities in Washington and Oregon. Our current information is that the resort lodging industry in Washington represents a very small share of the total lodging business compared to the national average. A study conducted in 1982 by The Washington State Research Council (The Washington State Visitor Industry: Economic Impacts and Data Base Development), indicated that nationally resort receipts represented 27.4 percent of total dollars spent for lodging compared to 6.5 percent for Washington. This comparatively small resort expenditure appears to be an anomaly, possibly suggesting that the resort industry has not yet matured in the state. Currently there are four major destination resort/conference centers in the state: Port Ludlow in Jefferson County; Alderbrook in Mason County; Rosario in San Juan County, and Semiahmoo in Whatcom County. The latter has only recently opened for business. The amount of capital invested in these facilities is substantial. Most have been subsidized by parent organizations as well as receive financial support from sales of residential land located on the premises.

However, according to the available information, establishment of a high-value destination resort/conference center does not appear feasible. Recent information on the lodging/conference business suggests that for small-size high value conventions and executive conferences, firms increasingly emphasize conference locations within accessible urban areas, including airport locations of major hub cities. Our contacts among planners and major developers in the hotel/resort industry support this view.

The conference industry encompasses a variety of market opportunities including meetings by religious groups, professional associations, government agencies, local organizations, etc. An example of a modest lodging/conference facility, which has operated with apparent success, is the Seabeck Conference Center located at Hood Canal. A similar facility built around a traditional Native American design concept may be an acceptable alternative use of the Makah Air Station site. The concept of a modest lodging/conference center appears to have some limited potential and is discussed further below.

5. Educational Institutions

We contacted several types of educational institutions. They included both profit and non-profit organizations providing higher education and specialized education organizations. Education might be offered in a number of unique instructional and research opportunities taking advantage of the station's geographical location and the existence of natural resources. Disciplines that could take advantage of those resources, in addition to archeology/anthropology, include fisheries, biology, forestry, ocean sciences, wilderness training, cultural enrichment, Native American Arts, and technology education.

Our contacts with higher education organizations focused on two concepts: development of a satellite campus associated with an existing Washington university or consortium of universities; and establishment of a Tribal Community College. We considered the possibility of tieing these concepts together to form an integrated

educational program oriented both to providing culturally based higher education to Native Americans and standard educational programs at the upper division baccalaureate level as well as graduate courses to the community at large.

In regards to establishing a satellite campus, we contacted State officials, local citizens, university administrators, and professors. Apparently, discussions of the possibility of establishing a university program at Neah Bay had previously taken place among Washington State University (WSU) officials and professors and local citizens of Clallam County. The initial reaction by the WSU officials appeared to be positive.

We initiated contact first with Port Angeles resident, Mrs. Gay Knutson, and then, Dr. Dale Croes, a Washington State University anthropologist associated with the "Pacific Celebration 1989" in Seattle. Mrs. Knutson is a Clallam County school teacher and community activist. Dr. Croes is well-known for his work at the Makah archeological sites. Both Mrs. Knutson and Dr. Croes are enthusiastic supporters of establishing a satellite campus consisting of a center for northwestern Native American studies, and also providing higher education programs covering a wide range of disciplines to area residents. Establishment of laboratory facilities for treatment and preservation of artifacts uncovered at nearby archeological digs could be an extremely important component of such an educational facility. Currently, valuable artifacts are stored in a rough shed. Some of the community needs, particularly in the western portion of the county are for continuing education with advanced courses in education for local teachers, as well as other programs. Dr. Croes noted that the Washington Legislature authorized the Centennial Commission to provide matching grants of up to $100,000 for projects that result in benefits with a "lasting legacy". The proposed satellite campus could very well conform with this guideline. At the suggestion of Dr. Croes, we discussed the issue with Ralph Munro, Secretary of State for Washington and Secretary of the Centennial Commission, to discuss possible support for establishing a satellite campus. He indicated that he would be willing to convene a meeting of university officials and others interested in the concept.

We contacted Dr. Marsha Landolt, Associate Dean, University of Washington (UW), School of Fisheries regarding possible interest in the Makah Air Station facilities. Dr. Landolt noted that the university does not have access to salt water facilities (other than at Friday Harbor on San Juan Island), however, there are a number of on-going projects that might profit from access. The School of Fisheries as well as the Department of Ocean Sciences might be willing to make a site visit to explore the possibility of establishing a research and training facility. She indicated that the School of Fisheries is very interested in recruiting Indian students and is currently engaged in an outreach program. One of the problems in student recruitment is that Indians experience "cultural shock" and "homesickness" when enrolled at the main campus in Seattle. Establishment of a research and training facility at an Indian Reservation could be beneficial in designing both training and internship programs for Indian students.

We contacted Mr. Fred Dobney, Vice President Extended University Services, Washington State University. While his initial reaction was one of interest in the concept, the response to our letter and related information on the Makah Air Station, which had been sent at his request, was not positive. He indicated that he had conferred with President Smith and that the decision was made not to further

pursue the satellite campus proposal. While the Washington State response is somewhat disappointing, we believe that it might be worthwhile to engage in a grass roots effort to develop a base of support both within the community and official circles in State government. Contacts might also be pursued with other Washington universities, such as Western Washington, Evergreen, and Central Washington Universities.

Also, as part of our effort to determine the possible interest in the satellite campus concept, we met with State officials including Dr. Sandi Benbrook, administrator for the Department of Community Development, and Jake Thomas, Director of the State Architecture and Historical Preservation Commission. We received encouragement from them concerning the proposal. It was suggested that the Governor's Office may be interested in adopting the concept of establishing a higher education program at an Indian Reservation in policy guidelines currently being written regarding Native American issues.

Establishment of an Indian Community College is regulated by the Tribally Controlled Community College Assistant Act PL 95-471 (1978) as amended by PL 99-428 (1986). Contacts were made by the study team with interested citizens in Clallam County, academics, other educators, and BIA officials regarding the potential use of the Makah Air Station site as a Tribal Community College. Local interest appeared to be considerable. A college devoted to teaching Native American subjects as well as providing a standard educational curriculum would be an asset to the Indian Community on the Olympic Peninsula as well as a draw for students from other regions. Ms. Roberta Wilson, UW, Department of Indian Education, and Ms. Dee Dickerson, New Horizons for Education in Seattle both outlined the procedures for establishing a Tribal Community College. According to Ms. Dickerson, Indian community colleges are being established in greater numbers throughout the country. The steps necessary for establishing a Tribal Community College include formation of a committee, preparation of a development plan, application for a needs assessment study (conducted by the BIA), establishment of an academic program, acquisition of candidacy status for accreditation, and finally acquisition of accreditation as a Tribal Community College.

There are apparently no minimum enrollment limitations under existing law. Total enrollment can be as low as 65 students (or 25-35 full time equivalents), according to information provided by Ms. Wilson. With the total Indian population on the Olympic Peninsula at approximately 7,000 persons, it is likely that enrollment would exceed the amount indicated as the constructive minimum.

For the past year (1987), Congress authorized the Secretary of Education to provide, for each academic year to each approved tribally controlled community college, a grant amounting to the product of the Indian student count times $5,820. The grant levels are subject to total authorized funding for the program. Per capita payments may be reduced if the funding authorization is exceeded. We did not inquire about the status of current funding levels.

As noted previously, a Tribal Community College conceivably could be established in coordination with a university sponsored satellite campus program. Based on the information available, we conclude that establishment of a higher educational facility should be given priority.

We also contacted and sent questionnaires to the following specialized institutions:

* Pacific Coast Outward Bound -- Portland, Oregon
* University of the Wilderness -- Evergreen, Colorado
* New Horizons for Learning -- Seattle, Washington
* Ni Ha Alchini Ba Educational Programs -- Shiprock, New Mexico
* Institute of American Indian Arts -- Santa Fe, New Mexico
* Daybreak Star Indian Cultural Education -- Seattle, Washington

The only reply to our questionnaire came from the Institute of American Arts which is contemplating the establishment of a new campus. According to the information received, the location of the new facility has not been decided, but is likely to be in Santa Fe. Our letter and related information about the Makah Air Station site was sent to the Board of Trustees of the Institute for their consideration of location alternatives.

6. Scientific Research Organizations

Besides the university-based organizations discussed above, we contacted a number of research organizations concerning the potential for locating a research facility at the site. The organizations contacted include:

* National Coastal Resources Research & Development Institute -- Newport, Oregon
* Department of Fish and Wildlife Resources, University of Idaho (member of Western Regional Aquaculture Consortium) -- Moscow, Idaho
* Seattle Pacific University; Satellite Campus -- Whidbey Island, Washington
* Scripps Institution of Oceanography -- La Jolla, California
* Western Subsea Limited -- Victoria, British Columbia

None of the organizations contacted expressed an interest in establishing a research facility at the Makah Air Station site.

We conclude that establishment of a research facility independent of an academic educational program does not appear feasible, based on available information.

7. Drug/Alcohol Abuse Treatment and Vocational Rehabilitation Organizations

Our contacts with numerous organizations that administer or provide drug and alcohol abuse treatment and vocational rehabilitation services indicated strong support for the concept of establishing a resident facility using the Makah Air Station site.

Rick Teboe, Director of the Native American Liaison, Bureau of Alcohol and Substance Abuse in Olympia referenced the need for an alcohol/drug abuse/vocational rehabilitation facility with capacity to provide services to adult males and females as well as youths. He indicated that, in many cases parents do not enter treatment programs because of the lack of child care. Therefore, he suggested that child care facilities be established to provide comprehensive services to toddlers.

Vocational rehabilitation programs would be an excellent complement as alcohol/drug abuse is often accompanied by low job skills and high unemployment. Such rehabilitation training might include auto mechanics, welding, cabinet making, and food service. Such vocational training would take advantage of the station's available facilities. Other adult education programs could be established, as well.

A combined alcohol/drug abuse and vocational rehabilitation facility would provide an opportunity for cultural revival, according to Mr. Teboe. Although the remote location evidently has some negative aspects, he felt that the remoteness of the location would provide an environment in which people in need of such programs could focus on their common culture and shared interests. Mr. Teboe also indicated that the Makah Tribe could contract with the State for alcohol and drug treatment in-patient facility beds. This would provide a source of revenue. It was his opinion that the Peninsula Consortium of Tribes would support the idea. Housing available at the air station site could be used by personnel who provide treatment. The rehabilitation programs could also be used as a training facility for counselors under contract to colleges and universities in the State.

Julie Rosewell, a rehabilitation specialist at the Lower Elwah Tribal Center, provided information supporting the need for an in-patient alcohol/drug abuse treatment facility at the Makah Reservation. She is currently preparing a feasibility study for an alcohol/drug abuse center for the Makah Tribe. The needs of the local population will figure in her needs assessment. A minimum size facility would have not less than 24 beds to be cost effective, according to information provided by her. Funds to operate the facility are available from federal and State supported Indian health programs.

Others contacted, including Mr. Steve Old Coyote, Drug and Alcohol Rehabilitation, Suquamish Tribal Center; Mr. Tom Lochart, Planner for Alcohol and Drug Rehabilitation, Clallam County; and Mr. Leo Witeford, Puyallup Treatment Center in Tacoma expressed similar views concerning the need for resident facilities. Apparently the State of Washington is very interested in receiving proposals for in-patient treatment programs for alcohol and drug abuse.

Based on the above information, we conclude that establishment of an alcohol/drug abuse and vocational rehabilitation center is a feasible re-use of the Makah Air Station.

8. Tribal Center/Meeting/Recreation Program Development

A combination of uses could be achieved through establishment of a Tribal Center/meeting/recreation facility. Such a facility could also accommodate some of the educational and conference uses discussed above, but perhaps at a reduced level. Additionally, certain research or natural resource-based functions such as aquaculture could take place in conjunction with the operation of a Tribal Center and recreation facilities.

Several tribal centers and architectural design consultants were contacted in regard to establishing a center at the Makah Air Station property. Key elements indicated by them consist of: a gymnasium with a playing floor suitable for both basketball (using athletic shoes) and for tribal dances and other events (using street shoes); locker rooms; commercial quality kitchen facilities; Tribal Council chambers; elders

lounge; medical screening area; classrooms; dining rooms; and possibly space for a tribal museum.

The conference/meetings business could be a profitable addition to the operation of a Tribal Center, benefiting from the artistic, food service, and other cultural amenities provided by the Center.

As noted above, demand is likely to be high, especially during summer months, for campground/RV park facilities. Currently the Air Force accommodates requests for such facilities by researchers and other transient users. Approximately 40 RV units and 100 people request camping/RV park privileges each month. This level of unsolicited demand is an indication of the opportunities for operating recreational facilities at the site.

Based on the available information, we conclude that a combined Tribal Center/meeting/recreation facility would represent a feasible re-use of the Makah Air Station.

9. Federal and State Agencies

Contacts were made with both representatives of the military services as well as federal domestic agencies regarding the possible uses of the Makah Air Station site as a training center or for other functions.

Colonel Brandt of the Office of Economic Adjustment conferred on our behalf with representatives of the military services regarding their potential interest in the site for military purposes. In addition, we contacted General Eggen of the Washington National Guard to inquire about the possibility of establishing a National Guard station and training facility. He made a site visit, was very favorably impressed, but decided it was too remote for a National Guard facility. He conferred with the Washington State Director of Emergency Management, who similarly was not interested.

Also, meetings were held at the Seattle office of Richard Kinnier, Western Regional Director of the Office of Economic Adjustment with officials from federal domestic agencies. No expressions of interest for using the site were received. However, there was some indication that uses by others might qualify for development assistance funding.

Based on this information, we conclude that re-use of the Makah Air Station by federal or State agencies is a very weak possibility.

10. Rental Housing Users

Contacts were made concerning the potential demand for the rental of housing located at the Makah Air Station. Interviews and telephone communication were conducted with real estate agents, Clallam Bay Corrections Center staff, and Clallam County planners. Generally housing is in short supply, quality rental units do not remain on the market for more than a day or so. The primary source of demand for year round units is personnel from the corrections center.

The real estate agents contacted indicated that demand for rental housing in Clallam Bay would spill over to Neah Bay if units at the Makah Air Station become available. Indeed, Coast Guard personnel at Neah Bay find it difficult to locate adequate housing.

Rentals for 3-bedroom single-family units range between $400 - $450 per month in Clallam Bay. Similar prices are evident in Forks. Rents for 2-bedroom homes range from $250 - $300 per month. A new HUD assisted low-income housing development with 34 units located in Clallam Bay charges qualified low-income tenants $210 per month for 1-bedroom units; $260 per month for 2-bedroom units; and $310 per months for 3-bedroom units. Rates for non-qualified renters are much higher; $510 per month for a 3-bedroom unit.

A note of caution on the location preference of Clallam Bay Corrections Center personnel was made by Ms. Katie Carlson, an anthropologist working on a Department of Justice study of the community effects of opening a major prison in a rural location. Surveys of prison staff indicate dissatisfaction with the isolation experienced from working at remote Clallam Bay. She feels that residence in Neah Bay (about 20 miles further west) would reinforce the sense of isolation and, hence, not be acceptable to most staff members of the correction facility. On the other hand, the survey responses indicate an appreciation for the natural beauty and environmental features of the area. They also indicate complaints about the availability of quality housing within reasonable commuting distance. Therefore, some of the prison staff may be willing to make the trade-off between finding better housing and experiencing greater isolation, especially if use of the recreation facilities were offered as a special privilege to lessees.

We also contacted a personnel department representative, Ms. Karla Laughlin, at the Clallam Bay Corrections Center regarding the housing available to prison staff. She confirmed that housing supply is extremely short.

We conclude, therefore, that the market demand in the area is sufficient to absorb on-base housing at the Makah Air Station.

C. Screening and Evaluation Criteria

The use alternatives were screened based upon our own and key informant evaluations of market feasibility and likelihood of implementation in order to select alternatives that had reasonable prospects for success. These criteria were:

- Ease of access to the site from principal sources of demand
- Suitability of natural features and man-made structures at the site
- Demand for services or products
- Relative costs of improvements and operations, based on comparisons with similar prospective uses elsewhere
- Competition with other locations (based on criteria other than costs)

Table 1 indicates our ratings for the candidate uses according to those criteria. The ratings were based upon responses from potential users as well as our own evaluations of expected responses where specific prospective users had not been identified.

The alternatives were next evaluated according to use desirability from the tribes point-of-view. These criteria were:

- Single User, though not necessarily a single use, to avoid problems of benefits and cost allocation among multiple tract owners
- Conformance or conflict with tribal cultural values
- Conformance or conflict with tribal environmental values, objectives, and concerns
- Revenues generated for the tribe and private land owners
- Cost to the tribe for improvements. This criteria recognizes that even though the economic benefits might be high, the financial burden on the tribe might be more than it can afford or might want to assume.
- Implementation timing, recognizing expected delays in instituting the re-use and therefore accrual of revenues and benefits
- Expected economic benefits, in addition to revenues (noted above) and including job generation, wages, and secondary benefits to the tribe and community

Table 2 indicates our ratings for the candidate uses according to the above criteria. As for the first set of screening criteria, the ratings were based upon responses from potential users as well as our own evaluations of the use impacts.

D. Suggested Re-Use Alternatives

The uses determined to be most practical, beneficial to the tribe, and compatible with tribal desires/concerns and the site conditions were then incorporated into alternative concept studies for the site development plan. Clearly, it would be inappropriate to assign equal weights to the various criteria, and we were careful not to interpret the ratings assigned too strictly. The objective was to obtain more of a feel for the relative feasibility and desirability of the various use alternatives than a specific net rating or ranking for each.

Even so, it is not surprising that some of the uses stand out as exhibiting more marketable and desirable characteristics than others. These are: a higher education and research facility; a drug and alcohol treatment and vocational rehabilitation facility; and a Tribal Center/recreational facility. Demand is high for these uses and access does not appear to be a major constraint. The cost of developing the facilities is relatively low because most of the necessary structures already exist at the site. While both the alcohol/drug abuse treatment/vocational rehabilitation facility and the Tribal Center/meetings/recreation facility involve multiple uses, they are considered to be compatible uses. The biggest drawback for developing the higher education facility is its timing of development, since a great deal of effort will be required to negotiate and implement a research facility, satellite campus, community college, or combinations of the three.
On-base housing and mobile home pads represent an immediate source of revenues and would be an important component in the establishment of all three of the preferred candidates for re-use.

The economic benefits are potentially high, especially for the higher education or research facility and drug/alcohol & vocational rehabilitation center. Employment opportunities promise to be extensive, particularly in services and training fields. Wages of existing residents are likely to increase. And, overall, aggregate economic

activity is likely to be higher than existing levels, since a high proportion of expenditures of Air Force personnel occur on-base and outside the local economy.

All three would take excellent advantage of the site's natural and man-made features, and all three may be developed at reasonable costs to the tribe and in conformance with their cultural and environmental values.

Table 1
MARKET POTENTIAL
MAKAH AIR FORCE STATION RE-USE ALTERNATIVES

Use\Criteria	Access	Features	Demand	Costs	Competition
Religious Retreat	L	M	L	H	L
Art Center	M	H	L	H	L
Campground RV Park	H	H	M	H	M
Resort Conf. Center	L	M	L	L	L
Higher Education	M	H	H	M	H
Scientific Research	L	H	L	M	L
Drug/Alcohol Voc. Rehab.	H	H	H	H	H
Tribal Ctr. Recreation	H	H	M	L/M	M
Military Facility	M/L	M	L	M	L
Rental Housing	M	H	H/M	H	H

H = High; M = Medium; L = Low market feasibility

Table 2
DESIRABILITY OF USE
MAKAH AIR FORCE STATION RE-USE ALTERNATIVES

Use/Criteria	Single User	Cultural Value	Environment	Revenue	Costs	Timing	Benefits
Religious Retreat	M	M	M/H	L	M	L	M
Art Center	M	H	H	L	H	L	L
Campground RV Park	L	M	M	M	M	H	M
Resort Conf. Center	H	M	M	H	L	L	H
Higher Education	H	H	H	M/H	M	L/M	H
Scientific Research	M	M	H	M/H	M	L	M
Drug/Alcohol Voc. Rehab.	H	H	H	M	H	H	H
Tribal Ctr. Recreation	M/H	H	H	M	L	M	H
Military Facility	H	M	M	H	H	L	H
Rental Housing	M/L	M	H	H	H	H	H

H = High; M = Medium; L = Low desirability

V. RECOMMENDED RE-USES

A. Educational Institution

The principal purpose would be to provide an educational and research facility for college and university students. The particular focus might pursue a number of options.

One option might be to provide facilities for a university sponsored satellite campus. The Cape Flattery Peninsula is already used as a research center for many students, and its potential study disciplines include marine and terrestrial biology, archaeology and anthropology, geology, ocean sciences, wilderness training, cultural enrichment, Native American arts, and forestry management.

There is presently a need to find a better storage facility for the artifacts from the Ozette archaeological dig, 16 miles south of Neah Bay, where Washington State University archaeologists and students have been working to excavate five longhouses covered by a mud slide approximately five hundred years ago. Some of the Ozette Makah artifacts are on display at the museum in Neah Bay, and the remainder are stored in inadequate sheds at the Ozette site.

Therefore, the station's facilities might provide research and education facilities for archaeology as well as the other disciplines, possibly with an exclusive orientation to upper division baccalaureate level and graduate level courses. The research and education might be provided through a satellite campus of Washington State University or a consortium of universities in the state, such as Western Washington, Evergreen, and Central Washington Universities.

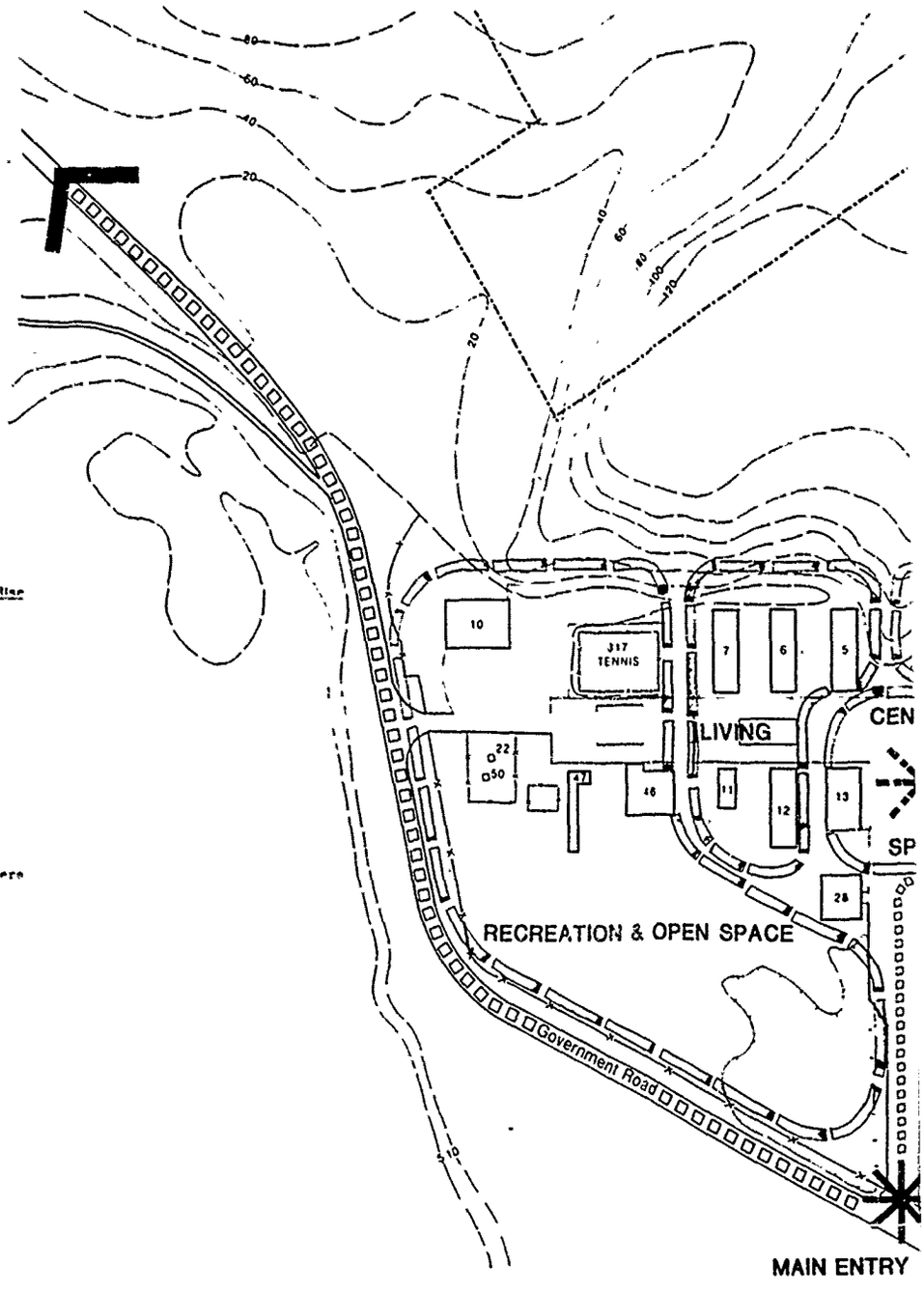
Another option for an educational institution would be a community college either open for all area residents or exclusively dedicated to local Indian tribes. There is support for such a community college among the nearby communities. And, staff of the new West Clallam Correctional Facility at Clallam Bay have expressed an interest in higher education classes.

There is also a sufficient Indian population in the region to support an exclusively Indian community college. Previously, the Makah and other Indian students have gone as far away as Arizona to obtain a college education, and a local community college would enable more Indian students to attend college.

Some combination of university research/education and either region-wide or Indian community college education facility would also be possible. Depending on how wide the area was from which students were drawn, the educational facility could support a student population from 200 to possibly as many as 500. Approximately 130 students could live on campus in existing dormitory facilities, and an additional 114 students could be housed in the relocatable housing and trailer court.

Exhibit 7 illustrates our concept of how the station's cantonment area would accommodate an educational facility, and an aerial perspective sketch following Exhibit 7 shows how the facility might look.

SATELLITE UNIVERSITY/COMMUNITY COLLEGE C
CONCEPT PLAN



BUILDING USES

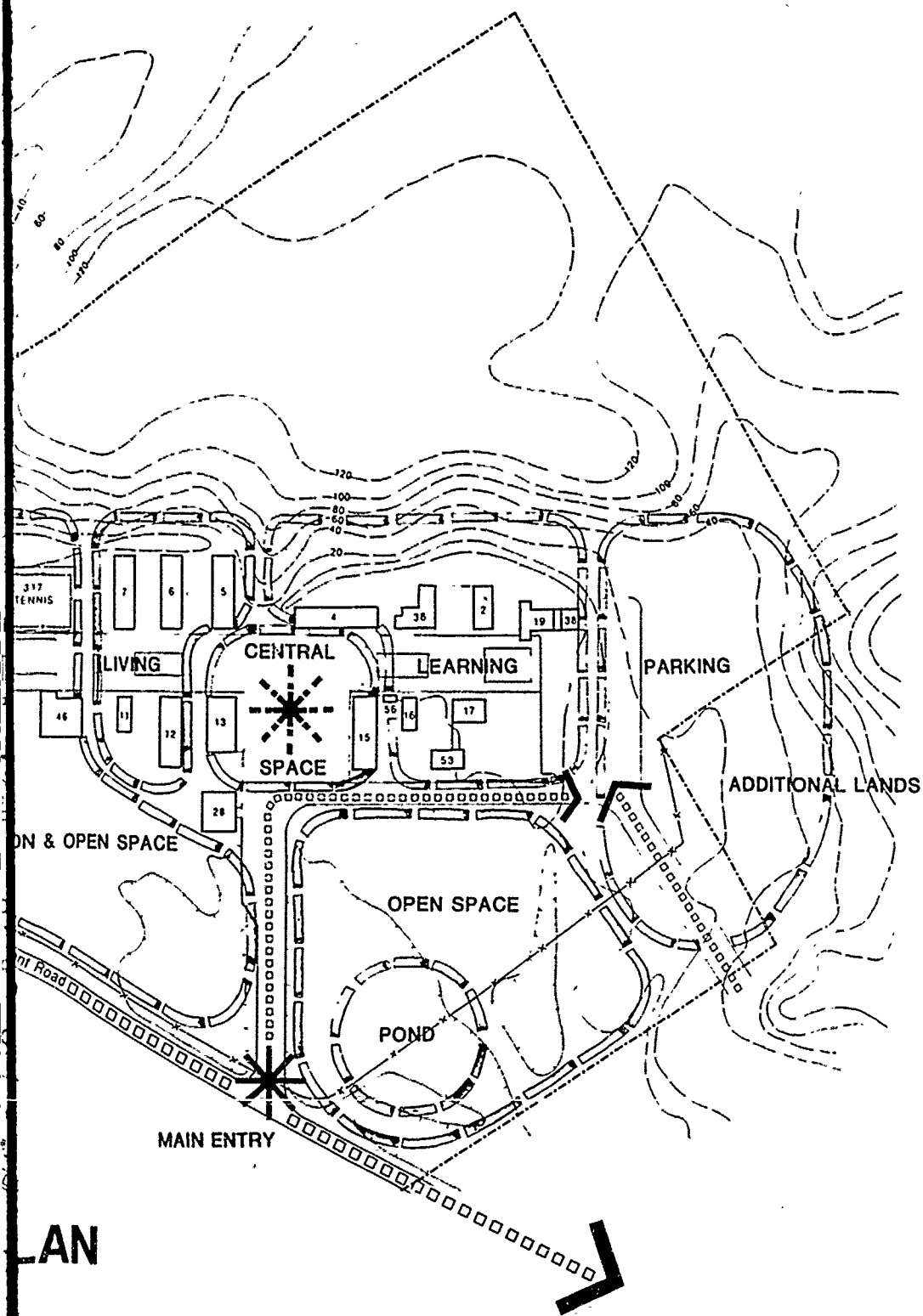
No.	Existing Building Use	Proposed Building Use
2	Warehouse	Classrooms
4	Headquarters	Classrooms/Faculty
5	Dormitory	Dormitory
6	Dormitory	Dormitory
7	Dormitory	Dormitory
10	NCO Club	Dining/Recreation
11	Arts and Crafts	Medical Facility
12	Dormitory	Dormitory
13	Dining Hall	Dining Hall
15	Dormitory	Faculty Offices
16	Commissary Warehouse	Laboratory Space
17	Auto Maintenance Shop	Laboratory Space
19	Civil Engineering	Classrooms
22	Sewage Treatment	Sewage Treatment
28	Post Exchange	Administration
36	Commissary Store	Laboratory Space
38	C.E. Maintenance Shop	Maintenance Shop
46	Gymnasium and Lockers	Gymnasium and Lockers
47	Bowling Alley	Bowling Alley
50	Sewage Treatment	Sewage Treatment
53	Auto Hobby Shop	Auto Shop
56	Fuel Tanks	Fuel Tanks
317	Tennis Court	Tennis Court

MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc.
In association with Fred Glick Associates: Seton, Johnson & Odell Inc.: R. E. Hansen Researc

EXHIBIT 7

COLLEGE CAMPUS



LEGEND

- Property Line
- Existing Contour
- Fence line
- Building wall
- Edge of pavement
- Public road
- Private vehicular access
- Site sub-area
- Special feature

GENERAL NOTES

1 Map copied from plan and survey provided by Fairchild Aerial Surveys to the Department of the Air Force, Air Defense Command, Makah Air Force Station (Sheet 1 of 4)

2. Master Planning Directive 57-52 Contract No AF 05(604)-71 June 17, 1958

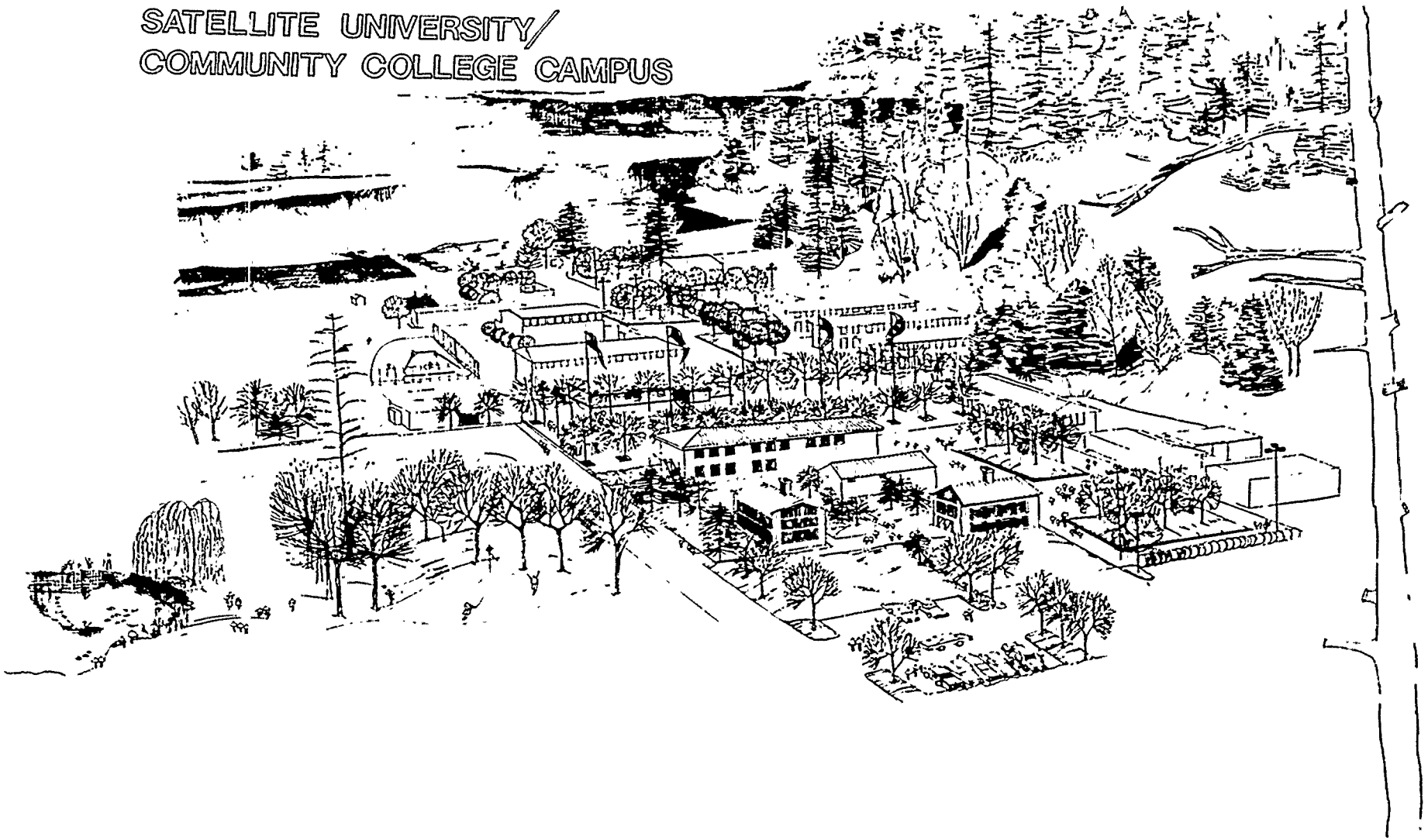
3 Modifications have been provided by Fred Glick Associates, Portland, Oregon, based upon on-site visual field investigations made Oct 8-9, 1987

0 50 100 200 400
Scale in feet

N

OCT,1987

R. E. Hansen Research Associates Inc.



MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc.
In association with Fred Glick Associates: Seton, Johnson & Odell Inc.: R. E. Hanson Research Associates Inc.

1. Immediate Plan

The basic existing physical facilities can be used to provide the educational facilities in the immediate future. Some facilities will need to be renovated to provide classroom and laboratory space, but the site and facilities are essentially ready to accommodate an educational use now. The following immediate improvements are suggested for this re-use.

- Renovate specified buildings in the cantonment area to provide administration and medical facilities, classroom and laboratory space for research, teaching and extension work.

- Use the dormitories and housing for administration, faculty, students and support personnel.

- Improve gymnasium locker room facilities to accommodate women as well as men.

- Improve the trailer park for use by married students, and provide camping opportunities in the family camp area for short-term and overnight groups and individuals.

2. Near-Term (5-year) Plan

- Expand administration, classroom and laboratory space.

- Enlarge dining facilities.

- Remodel dormitory facilities to provide additional showers and student lounge space.

- Improve plazas, pedestrian lighting, site furniture, and landscaping.

- Manage forests to prevent future clearcutting from occurring in visible locations.

3. Long-Term (20-year) Plan

- Expand existing gym and recreation facilities, and construct a new full-size gymnasium.

- Expand the on-campus housing facilities.

- Relocate existing vehicle maintenance facilities to an off-site location.

- Provide for additional parking, possibly to the northeast of the cantonment area.

- Develop a campus sidewalk system.

More detailed improvements, according to the recommeded timing of implementation, are indicated in Appendix B.

B. Tribal Center, Conference/Retreat, and Recreation Center

The principal facilities normally provided at Tribal Centers include a council chamber, offices, an elder's lounge, commercial quality kitchen facilities, dining room, gymnasium, classrooms, and a medical screening facility. All of these facilities already exist in the cantonment area, though not in a single building. Therefore, a Tribal Center is an immediate re-use possibility, with minimal improvements necessary.

However, since the Tribal Center would not be a revenue producer, we suggest incorporating it with other compatible uses that would generate income for the tribe. One such complementary use is a conference/retreat facility where corporate, church, or other groups might pay for meeting rooms, transient housing, and dining services. Another complementary use would be a recreation facility where transients could take advantage of the region's natural beauty and recreation opportunities also paying to use the station's transient housing and dining facilities.

There is not a sufficient market to make either a conference/retreat operation or a recreation operation viable on its own. However, the tribal activities would provide a cultural attraction not commonly available to other conference/retreat or recreation-oriented facilities, and the recreation facility would also enhance the attractiveness of the conference/retreat facility.

The conference/retreat and recreation functions might also be operated in conjunction with the education facility of the first re-use option. Both functions are often a part of an educational institution, and the research and educational curricula would be an additional attraction for meetings and conferences. This use mix also makes sense, because the recreation demand would occur almost exclusively during the summer months when the education functions might be relatively inactive.

Exhibit 9 illustrates our concept of how the cantonment area would accommodate a tribal center together with a conference/retreat and recreation facility, and an aerial perspective sketch following Exhibit 9 shows how the facility might look.

1. Immediate Plan

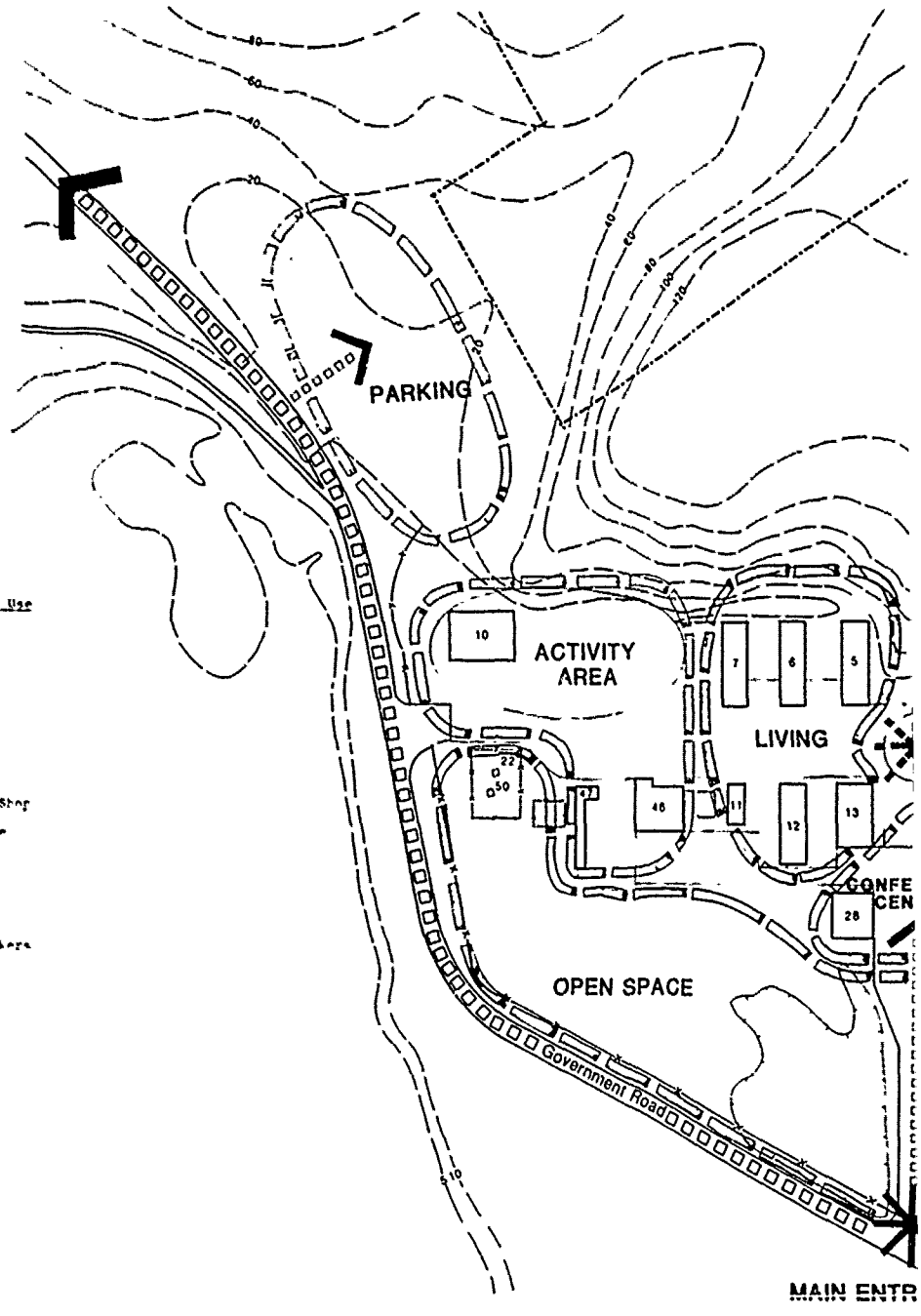
The existing physical facilities can be used almost entirely and with only minimal modification to create a Tribal/Conference/Retreat and Recreation Center in the immediate future. The following immediate improvements are suggested for this re-use.

Convert the existing facilities to provide:

- Tribal Council Chambers, with meeting space for 20 persons around a central table,

- An elders lounge,

TRIBAL/CONFERENCE CENTER CONCEPT PLAN



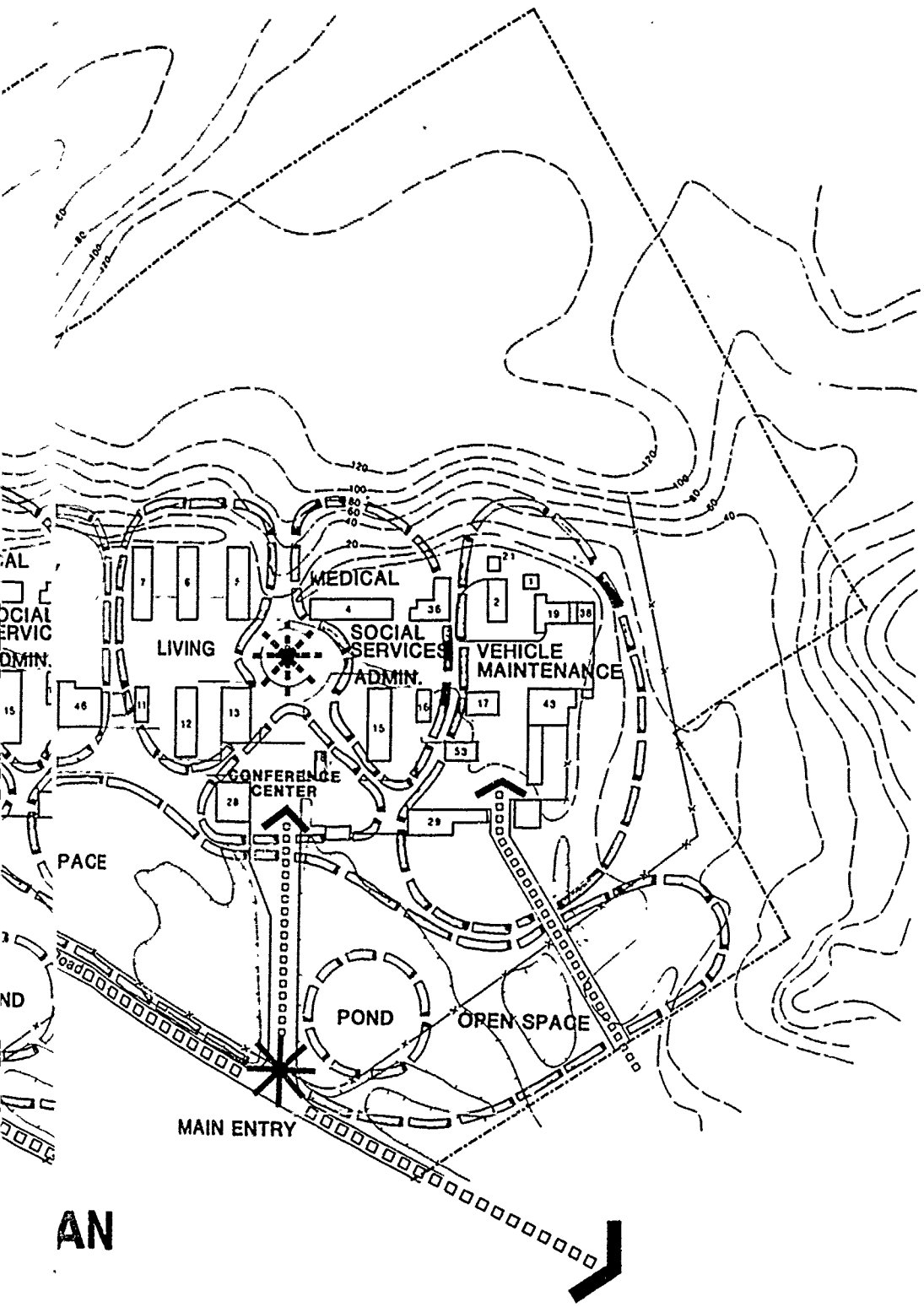
BUILDING USES

No.	Existing Building Use	Proposed Building Use
1	Storage	Storage
2	Warehouse	Warehouse
4	Headquarters	Council Chambers
5	Dormitory	Dormitory
6	Dormitory	Dormitory
7	Dormitory	Dormitory
10	NCO Club	Dining/Dancing
11	Arts & Crafts	A & C, Gift Shop
12	Dormitory	Dormitory
13	Dining Hall	Dining Hall
15	Dormitory	Social Services
16	Commissary Warehouse	Administration
17	Auto Maintenance Shop	Auto Maintenance Shop
18	Chapel	Meeting Room
19	Civil Engineering	Maintenance Office
21	Paint, Oil, Grease Storage	Storage
22	Sewage Treatment	Sewage Treatment
28	Post Exchange	Offices
29	Boat Shelter	Vehicle Storage
36	Commissary Store	Medical Services
36	C.E. Maintenance Shop	Maintenance Shop
43	Shop and Storage Shed	Storage Shed
46	Gymnasium and Lockers	Gymnasium and Lockers
47	Bowling Alley	Bowling Alley
50	Sewage Treatment	Sewage Treatment
53	Auto Hobby Shop	Shop

MAKAH AIR FORCE STATION RE-USE PLAN NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc.
In association with Fred Glick Associates: Seton, Johnson & Odell Inc.: R. E. Hansen Resea

EXHIBIT 9



LEGEND

- Property Line
- Existing Contour
- Fence line
- Building wall
- Edge of pavement
- Public road
- Private vehicular access
- Site sub-area
- Special feature

GENERAL NOTES

1. Map copied from plan and survey provided by Fairchild Aerial Surveys to the Department of the Air Force, Air Defense Command Mākah Air Force Station (Sheet 1 of 4)
2. Master Planning Directive 57-52 Contract No AF 05(604)-71 June 17, 1958
3. Modifications have been provided by Fred Gick Associates, Portland, Oregon, based upon on-site visual field investigations made Oct 8 9, 198?.

0 50 100 200 400
Scale in feet

OCT.1987

MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc.
In association with Fred Glick Associates: Seton, Johnson & Odell Inc.: R.E. Hansen Research Associates Inc.

- Two dining facilities - one to serve the Makah Tribal Council and elders, and the other for major functions of 200 or more people,

- Administration offices,

- An arts and crafts facility for making, storing and selling (gift shop) local handcrafted items.

- Use existing buildings for supplemental museum space, highlighting Ozette dig artifacts and displays,

- Activity areas - including indoor and outdoor meeting space and dance floor.

- Space for providing tribal social services,

- Additional gymnasium locker room space for women as well as men,

- Recreational vehicle camping sites for 75 to 100 overnight guests.

2. Near Term (5-year) Plan

- Develop boarding school facilities (often associated with tribal centers) for school age or college age students.

- Develop storage and restoration laboratories for local archaeological artifacts.

- Develop an annex to the Makah Tribal Museum.

- Improve plazas, pedestrian lighting, site furniture, and landscaping.

- Manage forests to prevent future clearcutting from occurring in visible locations.

3. Long Term (20-year) Plan

- Provide for additional parking, possibly to the northeast of the cantonment area.

- Develop a sidewalk system.

- Provide new facilities as required and funding becomes available.

More detailed improvements, according to the recommeded timing of implementation, are indicated in Appendix B.

C. Alcohol and Drug Abuse Treatment & Vocational Rehabilitation Center

The facility would provide alcohol and drug abuse treatment. To enhance patients' ability to support themselves upon re-entry to their community, vocational rehabilitation would also be provided. The center would care for both adults and youths. Child care facilities would be provided for dependent toddlers. Boarding school facilities would be provided for older youths from dysfunctional families.

The facility might be used for training counselors under contract to colleges and universities in Washington State.

Exhibit 11 illustrates our concept of how the station would accommodate an alcohol and drug abuse treatment and vocational rehabilitation center, and an aerial perspective sketch following Exhibit 11 shows how the facility might look.

1. Immediate Plan

The existing physical facilities can be used almost entirely and with only minimal modification to create a functional alcohol/drug treatment and vocational rehabilitation center in the immediate future. The following immediate improvements are suggested for this re-use.

- Renovate specified buildings in the cantonment area to provide administration and medical facilities, counseling, and vocational training.

- Use the dormitories and housing for administration, counselors, teachers, and patients.

- Improve gymnasium locker room facilities to accommodate women as well as men.

2. Near-Term (5-year) Plan

- Expand vocational programs.

- Enlarge center's administration, counseling, training, residential and dining facilities.

- Remodel dormitory facilities to provide additional showers and student lounge space.

- Improve plazas, pedestrian lighting, site furniture, and landscaping.

- Manage forests to prevent future clearcutting from occurring in visible locations.

3. Long-Term (20-year) Plan

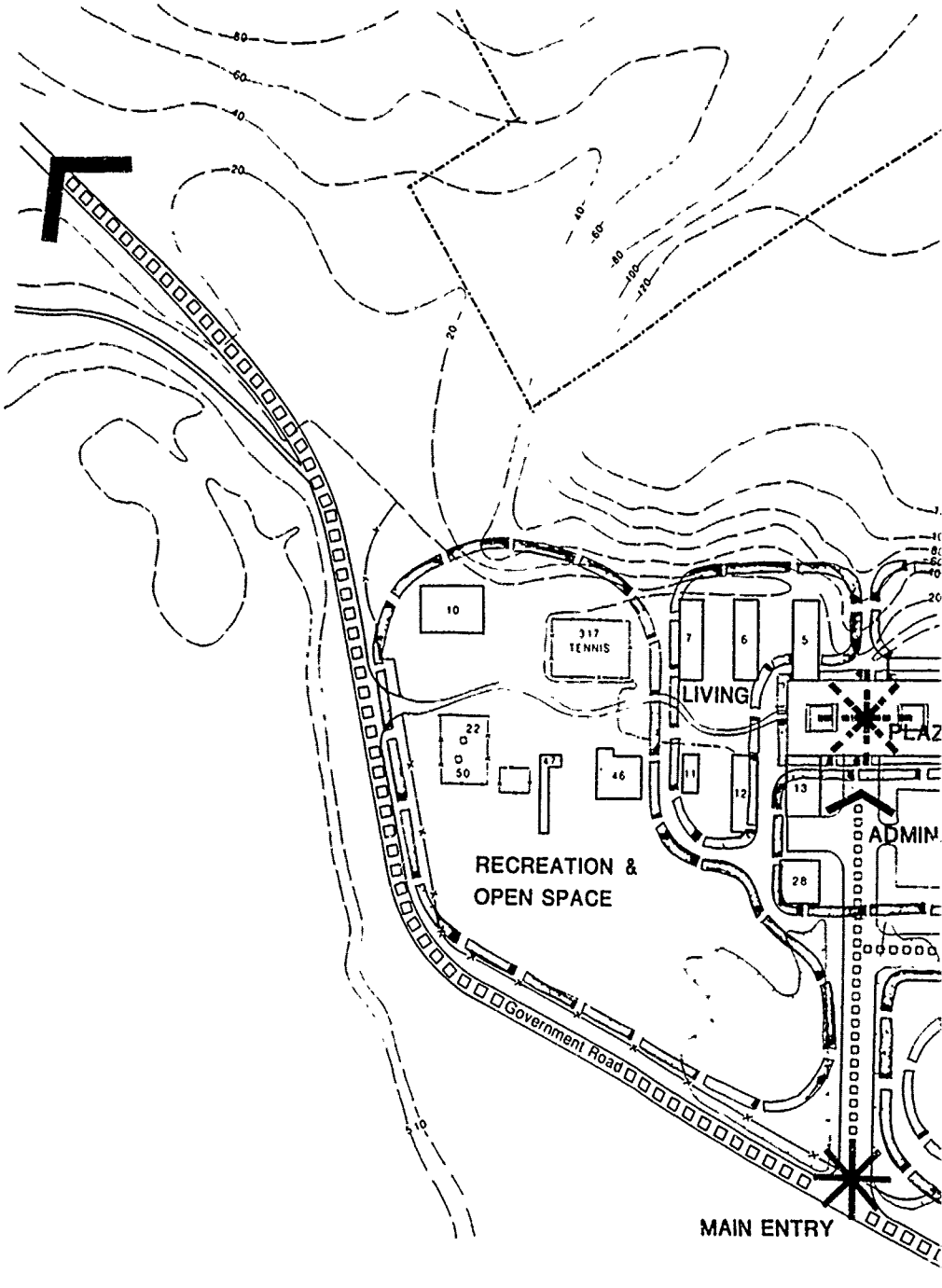
- Expand the on-campus housing facilities, if demand for services warrants.

- Provide for additional parking, possibly to the northeast of the cantonment area.

- Develop a sidewalk system.

More detailed improvements, according to the recommended timing of implementation, are indicated in Appendix B.

ALCOHOL/DRUG TREATMENT AND VOCATIONAL REI
CONCEPT PLAN



BUILDING USES

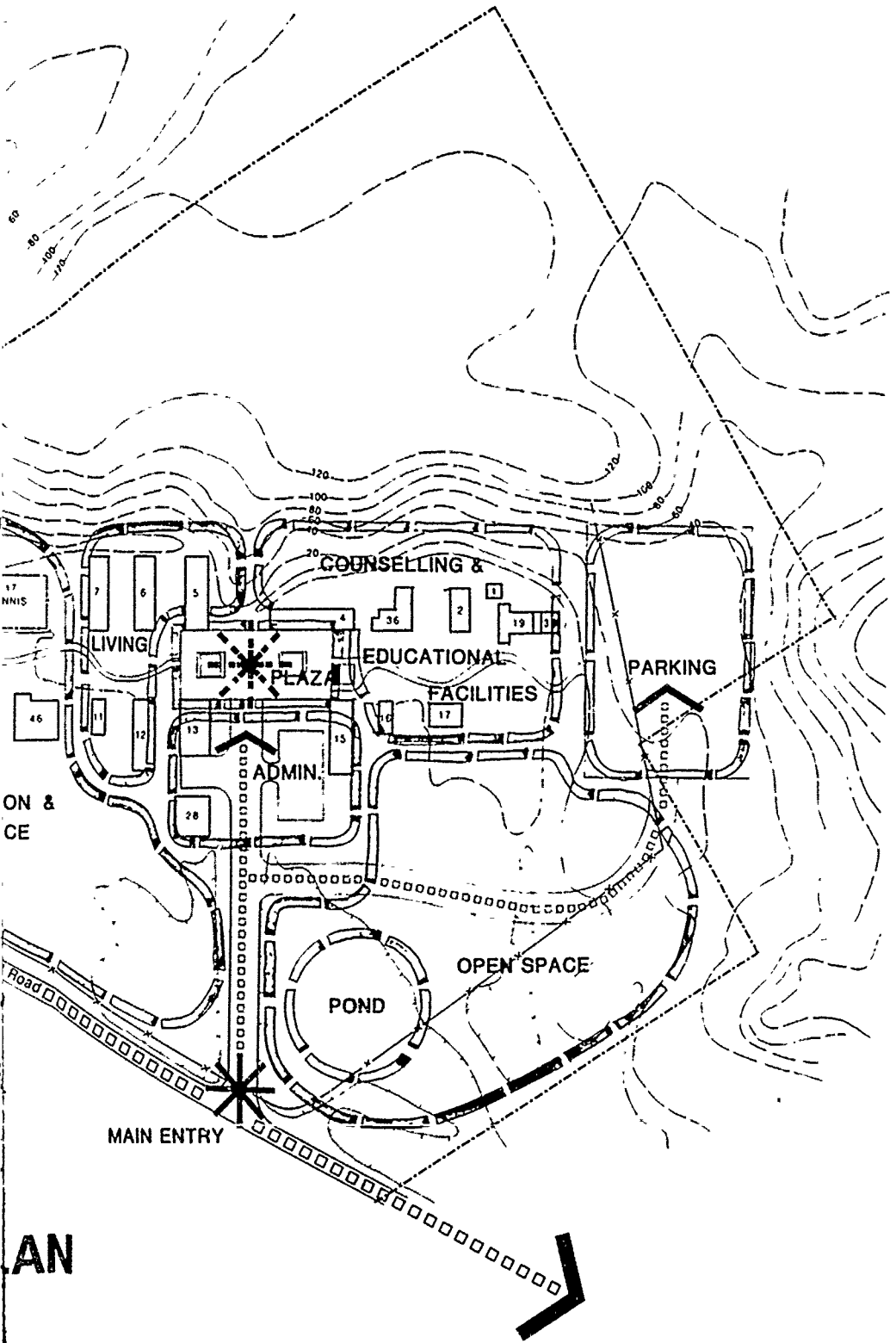
No.	Existing Building Use	Proposed Building Use
1	Storage	Storage
2	Warehouse	Medical Facility
4	Headquarters	Classrooms
5	Dormitory	Dormitory
6	Dormitory	Dormitory
7	Dormitory	Dormitory
10	NCO Club	Dining/Dancing
11	Arts and Crafts	Library
12	Dormitory	Dormitory
13	Dining Hall	Dining Hall
15	Dormitory	Offices/Meeting Rooms
16	Commissary Warehouse	Storage
17	Auto Maintenance Shop	Classrooms
19	Civil Engineering	Offices
22	Sewage Treatment	Sewage Treatment
28	Post Exchange	Administration
36	Commissary Store	Classroom Offices
38	C.E. Maintenance Shop	Storage
46	Gymnasium and Lockers	Gymnasium and Lockers
47	Bowling Alley	Bowling Alley
50	Sewage Treatment Plant	Sewage Treatment
317	Tennis Court	Tennis Court

MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc,
In association with Fred Glick Associates; Seton, Johnson & Odell Inc.; R. E. Hansen Research A

EXHIBIT 11

CATIONAL REHABILITATION CENTER



LEGEND

- Property Line
- Existing Contour
- Fence line
- Building wall
- Edge of pavement
- Public road
- Private vehicular access
- Site sub-area
- Special feature

GENERAL NOTES

1 Map copied from plan and survey provided by Fairchild Aerial Surveys to the Department of the Air Force Air Defense Command, Makah Air Force Station (Sheet 1 of 4)

2 Master Planning Directive 57-52 Contract No AF 05(604)-71 June 17, 1958

3 Modifications have been provided by Fred Glick Associates Portland Oregon, based upon on-site visual field investigations made Oct 8-9 1987

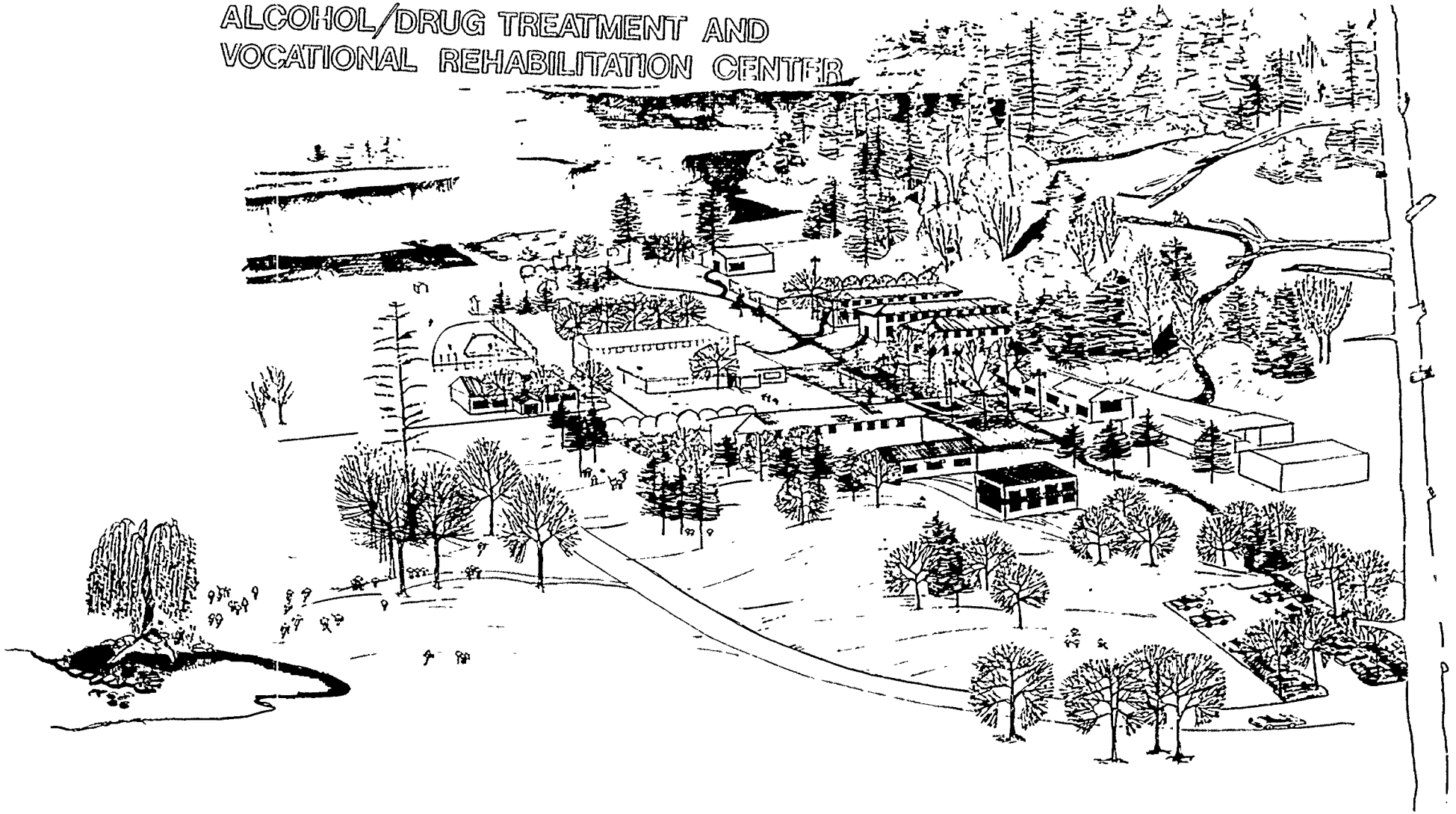
0 50 100 200 400

Scale in feet

N

OCT 1987

R. E. Hansen Research Associates Inc.



MAKAH AIR FORCE STATION RE-USE PLAN
NEAH BAY, WASHINGTON

Prepared by David M. Dornbusch & Company Inc.
In association with Fred Glick Associates: Seton, Johnson & Odell Inc.: R.E. Hansen Research Associates Inc.

D. Housing

Because it may take some time to develop any of the re-uses described above, it would be desirable to find a means for generating revenues immediately upon the Air Force's evacuation.

Housing in the region is in very short supply, and an excellent opportunity for generating immediate revenues appears to be from renting the station's housing. However, it should be recognized that all of the re-uses described would require that housing for staff accommodations. Therefore, we recommend that the available housing be rented on short-term leases, managing the lease terms and renewals to fit the expected needs of the larger station re-uses.

The permanent and relocatable housing as well as the mobile home pads are ready for immediate use. However, it will desirable to make some immediate improvements. The following immediate improvements are suggested.

- improve the foundations for the relocatable housing

- install meters to measure individual home consumption of electricity and water. Alternatively, a flat rate might be charged for individual and/or all utilities, including water, sewer, electricity, and solid waste disposal.

VI. ECONOMIC BENEFITS

The following is an assessment of the economic benefits associated with the re-uses identified for the Makah Air Station. Three uses emerged as the most promising candidates for re-use. Ranked according to the priority given for their implementation by the Makah Tribal Council, they are:

1. Educational Institution
2. Tribal Center and Conference/Retreat and Recreation Center
3. Alcohol and Drug Abuse Treatment & Vocational Rehabilitation Center

In addition, until one of the above uses can be implemented, there is the possibility of:

4. Renting the Housing, Mobile Home Pads, and RV Campground

As the housing would be required to support any of the above uses, rental housing is considered as an interim use. However, some of the housing, mobile home pads and RV spaces might still be available for rental concurrent with those uses.

We sought to evaluate the economic benefits for each of the above uses. The benefits considered included changes in employment, employment earnings, and other income directly related to the facility operations. Indirect employment generated was also considered though at a more general level, since information on local inter-industry input-output relationships is not available.

A. Rental Housing, Mobile Home Pads, and RV Campground

The rental income from the housing, mobile home pads, and RV campground is expected to be substantial.

We estimated that average rents of $400 per month would be generated by the 27 "permanent" units, $350 per month for the 18 "relocatable" units, and $100 per month for each of the 19 mobile home pad. Assuming a 5 percent frictional vacancy rate, total annual revenues from those rentals would amount to $220,020 per year.

If 50 RV spaces are established near or at the current Family Campground, according to the informed sources we interviewed rentals at $15 per space and a 90 percent utilization over a 90 day summer season would be reasonable and yield revenues of $60,700. If during the off-season, a fee of $10 per space were charged, at a 20 percent utilization, additional revenues of $27,500 would accrue. However, we felt that the 20 percent off-season utilization may be a bit optimistic, so to be conservative we estimated total annual RV Campground revenues at $70,000.

The combined housing and RV Campground revenues would therefore equal about $290 thousand per year. This is considerably greater than the foregone 1986 Air Force lease payments of nearly $225 thousand. However, without a use of the cantonment area to produce additional revenues, the operation and maintenance costs of the utilities would absorb all of the rental revenues and possibly more.

B. Educational Institution

This alternative also includes, perhaps even emphasizing, one or more research functions. Although it is not yet known what might be the size of the educational/research facility operation, we determined that the campus would accommodate up to 200 students without requiring major new construction.

Two methods were used to estimate the amount of economic activity associated with the operation of such a facility. One favored by the HECB for estimating education budget requirements is to calculate the average cost per full-time equivalent (FTE) student. The current Washington State University average is $8,850. The cost per student for the regional universities, whose programs emphasize undergraduate instruction, e.g., Western University, is $5,200. However, the average cost per student at the community colleges in Washington is $3,200.

For the satellite university, we judged that the $5,200 per student cost figure for the regional universities would be most applicable. Therefore, using this first method, we estimated total operational expenditures of about $1 million per year for the satellite university and about $640 thousand per year for the community college.

The second method is to develop information on the likely number of instructors and other personnel, and their expected earnings, based upon student/staff ratios. This approach is apt to provide more conservative estimates of aggregate economic activity. Nonetheless, it has the advantage of indicating employment effects which can be compared to other alternative uses of the Makah Air Station.

We did not try to judge what might be the specific nature of the research functions that might take place, as we felt that the associated research labor and incomes would be comparable to that of an operation having a primarily educational use. Therefore, whatever mix of education and research might ultimately be developed would not appreciably affect the level of economic benefits.

Student/personnel ratios and salary levels were obtained from the State of Washington Higher Education Coordination Board (HECB) and the Peninsula Community College at Port Angeles, Washington to determine the likely staff requirements. Ratios of 20 students per instructor and 40 students per noninstructional personnel, and average salary levels of $22,500 for faculty and $14,500 for noninstructional clerical staff were used. Therefore 10 instructors and 5 noninstructional clerical staff would be needed.

An additional 5 FTE security, maintenance and administrative personnel would be needed, and the Makah Tribe may wish to take responsibility for those functions, at average annual salaries of $20,000 each.

It was premature to consider the potential rental value of the air station facilities for any of the re-use alternatives, including a satellite university/community college campus. Certainly, the Tribe and other owners should seek to cover their costs of operating and maintaining the facility, but we were not able to estimate the additional direct revenues that might be generated.

Indirect employment is estimated using the state-wide employment multipliers developed by the Washington State Input-Output Study for 1982. Based on that study, the total jobs multiplier for the services sector (incorporating education) is estimated at 1.51 or 0.51 indirect jobs for each direct job associated with operation of the facility as a satellite university/community college.

In general, multipliers estimated at the state level are higher than for local areas. This is because the import propensity of producers and consumers is greater in smaller economic areas compared to larger areas. The indirect employment estimates derived from these multipliers, therefore, are likely to be overstated from the perspective of the local area. It is worth noting, however, that the spending by out-of-area students, visitors, and renters who immigrate to the area but are not classified as direct workers is not incorporated in the employment multiplier analysis. The additional economic activity associated with such spending would be substantial at the local level, and we assumed that the two effects would be approximately equal and therefore cancel each other. Based on an employment multiplier of 1.51, 10 indirect jobs would be generated (20 direct jobs x 0.51) as a result of establishing a higher education facility at the site.

To estimate the indirect annual earnings, we judged that the indirect employee earnings would be in the range of $10,000 to $12,000 (given that most of the local indirect jobs would be in such support functions as sales and not in higher paying professional jobs), and we used an annual salary figure of $11,000 for the indirect workers.

Direct and indirect benefits associated with establishing a higher education facility are summarized below:

Economic Benefits	Direct	Indirect
Employment	20 workers	10 workers
Annual Earnings	$397,500	$110,000

C. Tribal Center and Conference/Retreat and Recreation Center

A Tribal/Conference/Retreat Center would be expected to employ administrative, entertainment, restaurant, and other service personnel. The actual number of direct workers will depend on the market performance of the conference center which, in turn, depends on market forces in the regional economy and the competence of the operating management. For this analysis, we used employment levels based on a seasonal market with fairly strong demand occurring during the period April through October and weak demand during the remaining months of the year. During the latter period, workforce levels would be at the minimum necessary for the facility to remain open and provide services to the Makah Tribe.

During peak operations, the center might be expected to accommodate up to 100 overnight guests within the motel and dormitory facilities. The factors used to estimate total direct workers are based on a recent analysis of the conference business conducted by members of the research team. Tribal Center employment levels are derived from experience in western Washington at other similar centers.

Minimum employment levels at the facility associated with operating the Tribal Center are estimated at 12 FTE persons. This includes the caretaker personnel required to provide administration, security, and maintenance of the premises. Similar to the university/community college alternative, it was estimated that this would represent a staff of 5 FTE.)

Average employment levels during the peak months is estimated at 30 workers, including the year round workforce indicated above, for a total annual FTE of 21 workers. The workers by category and average annual salaries follows:

Employee Type	FTE Number	Average Annual and Total Salaries
Manager/Administrator	1	$30,000
Asst. Manager	1	$20,000
Health Practitioner (part-time)	1	$5,600
Receptionist	1	$12,000
Maids	4	$34,000
Maintenance	3	$60,000
Recreation/Driver	1	$16,000
Food Service	9	$99,000
Total	21	$256,600

Average annual salaries are based on 1986 values for similar occupations in Clallam County.

Indirect employment associated with this proposed re-use is estimated at 11 workers, using the same employment multiplier of 1.51 described above. Their earnings are also estimated using the same average annual wage assumed for the first re-use.

Economic Benefits	Direct	Indirect
Employment	21 workers	11 workers
Annual Earnings	$269,600	$121,000

D. Alcohol and Drug Abuse Treatment & Vocational Rehabilitation Center

Combining alcohol/drug treatment with vocational rehabilitation in a single facility would provide a unique program of services to adult males and females as well as youths. The program also could be developed to provide child care facilities to the children of parents who otherwise would not enter treatment programs.

According to a recent study, an in-patient facility should accommodate a minimum of 24 persons to be cost effective. We assumed a facility of about three times that capacity, providing in-patient services to a maximum of 75 persons, with an average occupancy of 50 persons.

The alcohol/drug treatment staff would be composed of 5 FTE counselors, an administrator, 10 FTE service personnel, secretarial and food service workers,

cleaning staff, day care workers, and drivers. The vocational rehabilitation services would be provided by 3 training specialists and an administrator. The staff's wages would be in line with those for staff of corresponding skill levels in the previous re-use alternatives.

Indirect employment associated with this proposed re-use is estimated at 12 workers, using the same employment multiplier of 1.51 described above. Their earnings are also estimated using the same average annual wage assumed for the first and second re-uses.

A summary of the direct and indirect economic benefits associated with this re-use alternative follows:

Economic Benefits	Direct	Indirect
Employment	23 workers	12 workers
Annual Earnings	$350,000	$132,000

E. Summary

Each of the re-use alternatives will generate about the same level of direct and indirect employment, although annual earnings would be somewhat higher for the institutional uses, with the satellite university/community college and/or research operation being the most advantageous.

Although not considered here, local spending of students and visitors to the educational facilities and attending conferences and retreats would add even more economic activity to the immediate area. Therefore, the first two alternatives would offer even higher economic benefits than indicated above, with the educational and/or research facility most likely providing the highest economic benefits of the three.

VII. SUGGESTED IMMEDIATE IMPROVEMENTS

The following improvements should be made in the station's buildings and facilities immediately upon or preferably even before closure and transfer to the Makah Tribe.

A. Sewage Treatment Plant

Presently operating at a maximum load supporting about 200-250 people living on the site. The plant operates at about 30,000 gpd and has a design maximum flow of 40,000 gpd. However, infiltration can drive the flows up to 70,000 during especially wet periods. If the plant is currently conforming to State discharge standards and if the new use for the site does not increase the loading, it can continue to operate in its present condition. The only immediate need would be to acquire an NPDES permit. If the loading is increased (that is, the number of people at the site increases over 200), an engineering feasibility study will need to be performed to establish if the infiltration problem can be reduced to compensate for the increased load, or if the plant needs to be expanded.

Estimated Costs:	Permit	$5,000
	Engineering Study	$10,000
	Reduce Infiltration	*
	Plant Expansion	*
	Annual Operating Costs	$80,000

*Could not be estimated without a more detailed engineering investigation.

B. Spillway

There is presently no overflow channel below the water supply dam. Historically, sandbags have been used to prevent flooding of the housing area during the infrequent (approximately once in every five years) overtopping of the dam.

We recommend that a concrete overflow spillway and lined drainage channel be added to the dam.

Estimated Cost:		$255,000

C. Relocatable Housing

The relocatable housing structures are set directly on grade with no foundations. Instead, pressure treated timbers are used as foundations. There is evidence of dry rot. We recommend jacking up the structures and installing masonry foundations.

Estimated Cost:	18 units @ $9,500/unit	$171,000

D. Drainage

Storm water presently flows into surface ditches. We recommend installing an underground storm drainage system with area drains and french drains.

Estimated Cost: $100,000

E. Steam Heating

We believe that it would be most cost effective to replace the present steam heating system with heat pumps. Present operating and maintenance costs of the steam system is $120,000-130,000 per year. However, installation of heat pumps and demolition of the existing system would cost an estimated $312,000, with operating and maintenance costs of $55,000 per year. Therefore, the savings in operation and maintenance would pay for demolition and installation of the heat pumps in less than 5 years.

However, we realize that demolition of the existing steam system and installation of heat pumps would require a significant capital outlay. If the steam lines are to be retained, it would be best to bury them. However, this would only be practical if the water table is not above the pipe zone. The buried system should be welded steel pipes inside welded fiberglass pipes with insulation packing between the walls. The estimated cost for burying the steam lines would be $100,000.

F. Electrical

The following electrical improvements are considered necessary.

--	Automatic transfer (generator) switch	$ 7,000
--	New meters (70)	21,000
--	Tennis court lighting	7,000
--	Changes required to meet PUD standards	40,000
--	Replace 50% electrical panels (18)	27,000
--	Improve interior lighting	20,000
--	Battery backup exits (50)	10,000
--	Dorm smoke detectors (12)	12,000
--	Central fire alarm enunciator (40 zones)	4,000
--	Fire alarm wiring and installation	11,800
		$149,000
Overhead/Profit/Contingency -- 30%		44,700
	TOTAL	$193,700

Note that these costs assume that the Air Force will replace all of the transformers containing PCB's.

The new electric meters might not be necessary, if users were not to be charged according to a measure of their actual use but according to some other formula, such as area of occupied space.

Also, a new back-up generator would be necessary if the Air Force removes the existing generator. The replacement cost would be $55,000.

G. Plumbing

The only suggested plumbing improvement is partial replacement of the plumbing in the Dining Hall (Bldg. 13)

Estimated Cost: $ 24,000

H. Environmental Review

An environmental audit would be necessary to determine the extent to which improvements must be made to correct environmental problems. The analysis should be made in the light of expected station re-use, a different approach than the previous study which considered only station closure. We estimate that the work would cost approximately $10,000.

Even without such an investigation, it was evident that the asbestos materials would need to be epoxy sealed (at the very least) or removed. We felt that the asbestos insulation would need to be removed from the boiler area.

The audit should address the following issues:

- -- sealing and/or removal of asbestos
- -- removal and replacement of underground storage tanks
- -- removal of "blind" pesticide tank
- -- removal and replacement of transformers with PCB

The audit might also include the hydrologic investigation necessary to determine the practicality of burying the steam pipes.

The environmental audit should indicate the extent of the work and costs associated with each necessary improvement.

VIII. IMPLEMENTATION

Implementation of the station's re-use should include all of the following tasks. All are important, and none should be omitted.

The order should not be construed as representing a recommended sequence. All of the tasks should be initiated as soon as possible.

A. Equipment to be Retained

The tribe should identify all unsecured equipment at the station which the tribe would like to retain and then negotiate with the Air Force for the retention of that equipment. We consider the most necessary equipment to be the:

- kitchen/cooking equipment in the NCO Club and Mess Hall
- repair and maintenance equipment and supplies for heating, water, and sewage plants
- back-up generator

We understand that it may be incumbent on the Air Force to remove some or all of this equipment, and if so the Tribe should replace it. Also important, but not necessary, are the:

- gym equipment (both sports and maintenance)
- pin spotters (bowling alley)

We understand that the pin spotters may not be in very good condition, and the tribe may wish to check their condition before requesting that they be left behind.

If the adopted re-use included a technical college or vocational training center, the vocational training program might use the:

- vehicle repair and garage equipment

While not strictly necessary for any of the suggested re-uses, the

- Nautilus/exercise equipment

would certainly be useful addition to the recreation facilities.

B. Land Ownership

The tribe should resolve the land ownership problems associate with the site, and negotiate and organize a legal and administrative structure for managing the land and facilities and for distributing costs and profits. This is potentially a very significant problem. Unless an effective working relationship can be developed among the tribe and all individual land owners, all may lose the benefits from the station's re-use.

C. Interim Operation and Maintenance

Until a specific re-use can be found, it will be necessary to maintain the buildings and facilities in good condition. We recommend the immediate rental of the housing, and the tribe may also wish to operate some of the cantonment buildings and facilities for its own use. The marginal cost of such operations (over and above the minimum maintenance requirements) will be relatively small. However, the key maintenance functions are very expensive, and without a private source of income to finance those functions the tribe should seek funding from one or more public agencies, such as the BIA or other government agencies.

Perhaps the interim period could be designated as a "caretaker" period, during which the Air Force would assume responsibility for some of the interim maintenance. The tribe should seek to negotiate with Air Force on the level of maintenance which the Air Force might be willing to provide during such a "caretaker period" and specify how long such a "caretaker period" would be.

Heating: Until a re-use can be implemented, and while the housing is being rented, it will be necessary to operate the heat plant to provide some minimum maintenance measures. The temperatures in unused buildings should be kept between 45^{0}-50^{0} to prevent mildew, warping of wood, and generally to maintain integrity of the materials in the building interiors.

Water & Sewage: To provide water and sewage treatment service for the housing and possibly the recreational buildings that are operated during the interim, both the sewage plant and the water treatment plant should be operated.

Power: Electricity will be needed in the occupied buildings as well as for security in the general area.

Security: A plan should be developed to secure the property, including possibly provision for a caretaker during the interim period. It may be necessary to install some fencing to prevent vandalism, but we did not evaluate the need or the cost for fencing.

The monthly cost of providing interim maintenance would be as follows:

	Monthly
Heating Plant	
Fuel ($120-$130 thousand/yr.)	$10,000
O & M	8,500
Sewer and Water Treatment Plants ($80 thousand/yr.)	6,700
Electricity	
Power cost ($35-$40 thousand/yr.)	3,000
O & M	2,000
Solid Waste ($18 thousand/yr.)	1,500
Security and Maintenance Caretaker	3,000
Total	$34,700

Clearly, the high cost of the necessary interim maintenance highlights the importance of implementing a re-use as quickly as possible.

D. Market the Desired Re-Uses

Since there is no guarantee that the most desired re-use can be attracted to the station, all three concepts described in this report should be marketed simultaneously. As it is certain to take some time to negotiate and prepare for the entry of a new tenant (or multiple tenants), this effort should be given the highest priority.

E. Tribal Role in Re-Use Management

There are a number of possible functions which the tribe and its members will be able to perform in administering any of the possible re-uses. It appears that the tribe presently has personnel with the skills necessary to operate and manage many of the support utilities and services, such as the sewage treatment facility, water supply facility, real estate and rental housing. Also, it may be that some of the present Air Force's administrative and maintenance personnel might be interested in remaining in Neah Bay and working for the tribe or a tenant at the station on a temporary or permanent basis. The tribe should investigate these possibilities.

The tribe should make an assessment of its capabilities to operate the various facilities and evaluate the advantages of and its desire to provide those services to the re-user. The tribe might perform these services either under one tribal-run umbrella organization or through separate enterprises set up for specific functions.

The tribe might also benefit from Col. Rose's intimate understanding of the station's operational and maintenance requirements by seeking his assistance in preparing an administration and maintenance plan.

An important aspect of the administration will be security. It is likely to be a complex task to negotiate a division of responsibility for security among the various entities concerned. The Tribe should begin immediately to discuss and develop a plan for coordinating jurisdiction of security among the tribal, county and state governments. When a new user is found for the station, an agreement for managing security among all the entities should be developed.

F. Financing

Financing will be needed to cover the costs of interim maintenance, and it may be the key in determining which re-use (and perhaps even if a re-use) can be attracted to the station. The simple truth may be that the cost of adapting the station to any desired re-use may be more than a re-user will be willing to bear alone. And, the balance may be more than the tribe will be able to afford, either because of limited capital resources or because of the limited size of the loan that the revenue generation potential of the re-use will support.

Therefore, the tribe should seek to qualify for and obtain financing for the necessary improvements and planning functions from federal agencies. The following sources were identified in this study, but it should not be considered a complete list and further funding investigations should be made through the BIA, Senator Evans and the U.S. Senate Select Committee on Indian Affairs.

U.S. Department of Housing and Urban Development: Community Development Block Grants (CDBG) provides money to carry out various community and economic development activities for revitalizing Indian reservations' facilities and services. The maximum grant per year, however, is $250,000 and is supposed to benefit low- and moderate-income families as for example, housing tenants, facility users, and persons hired in economic development activities. Property acquisition may be eligible, provided it meets certain guidelines under the program.

Urban Development Action Grants (UDAGs) assists Indian tribes which are experiencing severe economic distress by helping to stimulate economic development activity. It is done through a combination of private and public investments in economic development projects. The private sector's financial commitment must be secured by the tribe prior to the preliminary approval of an Action Grant project. UDAG funds can be used for acquisition, capital improvements or improvement of infrastructure to support the proposed use of the property. Funding is on a nationally competitive basis with Indian applications ranked with applications from small cities. Selection criteria include: creation of new permanent jobs, the amount of private funds leveraged by the UDAG (at least 2.5 to 1 is required), and a firm commitment of private and public resources. (Presumably the private funds leveraged will include the value of land, buildings, and utilities, but this question should be studied further.)

Indian Housing Development/Acquisition provides funds to Indian Housing Authorities to develop and operate rental and/or homeownership housing projects for lower income families on Indian reservations. The IHA contracts with HUD for financing to develop housing units and for continued support during the project operation. Acquisition of existing housing is an eligible use for HUD development funds. The units would be acquired by the IHA and could be operated as rentals or homeowner units. Any rehabilitation required to put the units into "like new" condition would be eligible for funding. However, it would not seem that the Station's housing, if it were to be rented to non-Indian families, would be eligible for IHA funding.

The Environmental Protection Agency: EPA's Office of Municipal Pollution Control, in cooperation with the Indian Health Service, makes federal grants to fund the planning and construction of sewage treatment works to serve Indian tribes. Improvements to the sewage treatment plant might be funded in this way.

It would seem appropriate that the Bureau of Indian Affairs and the Economic Development Administration would also be potential sources of financial assistance. The local offices might be contacted.

The staff of the Senate Select Committee on Indian Affairs might be able to suggest still other funding sources and give some guidance to the tribe's research of the sources and preparation of funding applications.

G. Financial Analyses

Although, we did perform some cost-revenue analyses, it was not the intention of this study to provide more than a preliminary check on any particular use's financial feasibility. The emphasis was placed on estimating improvement and operating costs for any re-use that might be adopted.

It was contemplated at the outset that feasibility analyses would follow this planning study. However, for the near future, we recommend that cost-revenue analyses be performed only to guide the tribe's decision concerning development and operation of an RV park (for the Family Camp/Trailer park area). We also recommend that a more detailed housing rental market analysis be performed, but only to set the housing rental rates.

We do not recommend that feasibility analyses be performed for any of the re-uses prescribed. This would not be a productive effort unless and until the tribe was in a position to choose from among two or more competing uses.

H. Suggested Improvements

The specific improvements, including the environmental analyses (described earlier in Section VII. Suggested Immediate Improvements) should be implemented.

If charges for electricity and/or water use in homes will be based upon amount of consumption, electric and water meters should be installed in all homes to be rented.

Once a re-use has been found, the tribe should negotiate with the PUD to take over the electrical distribution system.

I. Housing Rental

The tribe should prepare for renting the housing and trailer pads by performing the following tasks:

- Determine the appropriate rental rates for the permanent and relocatable houses and trailer pads.
- Determine the costs of providing maintenance, water, sewage treatment and garbage collection to homes and trailer pads.
- Determine the methods and rates for charging tenants for water, electricity (if not metered), sewage treatment, and garbage collection.
- Determine how rentals will be managed and services be provided and maintained.
- Determine length of leases, given the objectives for cantonment area uses which may require support housing.
- Advertise the permanent and relocatable houses and the trailer pads for rental.

APPENDIX A: INVENTORY OF MAKAH AIR FORCE STATION'S BUILDINGS AND FACILITIES

I. HOUSING

A. "Permanent" Officer & Airmen Housing (Bldg. Nos. 400-441; no drawings)

27 buildings of standard wood frame construction on concrete footings, good quality with shared garages. All one-story single units with 3 bedrooms. Thermal pane steel windows, asphalt shingles, wood siding. 1100-1200 Approximate average square footage is 1100-1200 each.

Houses are generally in good condition. Minimal repair requirements.

B. "Relocatable" Housing (Bldg. Nos. 500-563; no drawings)

18 buildings, built over 20 years ago as temporary housing. The houses were recently renovated cosmetically, but were intended to be in service only for 10 years. Structures are set directly on grade with no foundations. Pressure treated timbers are used as foundations. Poor insulation. Evidence of dry rot.

C. Dormitories (Bldg. Nos. 5,6,7,12,15; drawings available)

5 dormitory structures, all of similar two-story wood frame construction. Each structure is approx. 6400 s.f. Although the buildings were built in 1951-52, they are in relatively good shape both structurally and architecturally.

Stem wall & footings around edge, spread footings and piers in center. Center hallway on each floor and low pitch (2:12-3:12) roof. Single pane, steel windows and asphalt shingles.Approx. 40 years old, but in relatively good shape. No evidence of structural problems, or leaks. There has been some settlement in the south end of Bldg. 12. Plumbing fixtures and piping is in good shape.

Common toilets & showers on each floor in Bldgs. 12 & 13. Renovation has just been completed in Bldgs. 5,6,7, & 8 to provide semi-private restrooms. Cement asbestos board & cement asbestos shake siding. Plumbing replaced/upgraded in 1961.

The center hallway walls are bearing walls which make any renovation of the buildings to a different use difficult. Since the walls between the rooms are nonbearing partitions, the individual rooms could be enlarged.

Space heat and domestic water heat are steam driven. Each dorm building is equipped with its own DHW tank. Space heat is conveyed to the rooms by fin tube radiators controlled by thermostatic radiator valves.

II. FOOD & DINING

A. NCO Club (Bldg. No 10; drawings available)

Relatively new metal moment resisting frame with frame-in walls. Concrete floor slab with spread footings and thrust ties. Approx. 4350 s.f., design drawing dated 1981. Currently houses dining area, lounge, restrooms, and kitchen. Exterior metal siding and metal roof panels. Interior - exposed metal columns and braces.

The building is equipped with air-to-air heat pumps providing heat, air conditioning and ventilation. Domestic hot water is supplied by an electrically driven tank. The building is protected from fire by a wet type sprinkler system. Additional ventilation equipment in the kitchen controls cooking and dishwashing fumes. All systems in this building are in good condition.

B. Dining Hall (Bldg. 13; drawings available)

The dining hall is a one-story wood framed structure that has been expanded numerous times over the years. It is currently approximately 6600 s.f. and has full-freezer space, kitchen and dining capability.

No original structural drawings available. Most existing drawings are repairs and renovations to the building. A small masonry addition was added to the back for storage. Currently, the facility seats 50-60 people and has the capability to serve over 200 people. Heating, ventilating and exhaust equipment are in relatively good shape. The plumbing system is somewhat patched together with different materials. Some electric corrosion was seen where copper and steel pipes are joined. DWV is a mix of plastic, steel and cast iron. A partial replacement of the plumbing in this building is recommended. Estimated Cost: $24,000.

C. Commissary Warehouse (Bldg. 16; drawings available)

One-story wood frame with asbestos siding. Approx. 960 s.f. One steam driven unit heater provides space heat. Very basic plumbing. Systems are in fair condition.

D. Commissary Store (Bldg. 3; drawings available)

One-story wood frame, 2.4" roof trusses at 3:12 pitch. Concrete floor slab, approx. 1560 s.f. No partition walls - all open. Currently used as commissary. No windows, but could be added.

E. Post Exchange (Bldg. No. 28; drawings available)

One-story, wood frame structure in same style as rest of base. Built in 1955 with an expansion in 1970. Structure appears to be in good shape. Cement asbestos shingles and built up roof (3:12). Approximately 2500 s.f., 2x8" trusses in roof. Large open-type construction - layout

relatively easily. Forced air heating system, one restroom, plumbing and heating equipment in good shape. Some unevenness in the floor resulting from different floor coverings.

III. OFFICES & ADMINISTRATION

A. Headquarters (Bldg. No. 4; drawings available)

Similar to dormitory structures in construction. Contains offices, work rooms and a theater, Approximately 2000 s.f. (one-story). Although built in 1951, HVAC is very similar to dormitories. Space heat is supplied by steam driven radiators, plumbing is in fair shape.

B. Maintenance Shop (Bldg. No. 43; no drawings available)

Wood frame structure built in 1954. Total shop space approximately 7400 s.f. with a covered vehicle parking area behind - approximately 2100 s.f.

C. Civil Engineering & Maintenance Shop (Bldgs. No. 19 & 38; drawings available)

Approximately 2600 s.f., built in same manner, one-story, wood frame, with asbestos concrete siding. Built in 1953. Addition in rear.

D. Chapel (Bldg. No. 18; drawings available)

One-story, wood frame structure on concrete piers. Same general base construction style. Wood trusses and asbestos cement siding. Approximately 970 s.f. Built in 1952.

IV. RECREATION

A. Arts & Crafts Center (Bldg. No. 11; drawings available)

One-story, wood frame in similar construction style. Cement asbestos shingle siding. Addition built in rear in 1971. 2x8" trusses in roof, 3:12 pitch with asphalt shingles. Approximately 2000 s.f., built in 1952.

B. Gymnasium & Locker Facility (Bldg. No. 46; drawings available)

8" concrete block wall construction with W10x15 steel columns embedded in walls. Block walls sitting on concrete stem walls and strip footings. Roof is 7"x22-3/4" GLU-LAM beams with 2x6 T&G decking over top. Flat built-up roof @ 1/4" per foot. Concrete floor with hard wood flooring in multi-purpose area. Built in 1962 with approximately 4200 s.f. Bond beam all around top of walls. Tiled men's & women's locker room, showers, and sauna.

Attractive facility in good shape structurally and architecturally.

Racquetball court added to rear in 1955. Same style construction --block walls, etc. Steel deck roof with truss joists. Concrete floor with

hardwood flooring. Approximately 1050 s.f. Heat is supplied by steam driven fan coil units feeding sheet metal ductwork. Steam fired hot water tank supplies DHW. Plumbing and heating systems in good condition.

C. Bowling Alley (Bldg. No. 47; drawings available)

Complete facility with pin setters and ball returns. Four lanes, hard wood floors, seating, and snack bar. Wood frame construction & asbestos shakes; similar to other base construction. Flat roof with asphalt base sheets. Front addition added in 1966 - similar construction, 2"x6" joists, 2"x10" floor joists on concrete stem walls & strip footings. Approximately 1770 s.f. Air-to-air heat pumps supplying heat, ventilation and air conditioning. Additional exhaust fan is installed above the snack bar vent hood. All systems are in very good condition.

D. Tennis Courts (Bldg. No. 37; drawings available)

A "concrete recreation pad" was poured in 1953. (Design drawing dated 1952). It is a 4" unreinforced slab on 2" of 3/4" minus crushed rock. 120 ft.x74 ft. with a 1/4" to 10' transverse pitch. Now used as tennis court with cyclone fencing all around. Needs sealing & resurfacing.

E. Weight Room

Pre-engineered metal building with weights and nautilus machines. One story, approximately 600 square feet.

V. STORAGE

A. Shop & Storage Shed (Bldg. No. 43; drawings available)

Wood braced-post structure on concrete piers and footings. One-story with concrete floor. Two roll-up steel doors. Approximately 2700 s.f. with open steel post shed behind. Cement asbestos shakes.

B. Boat Shelter (Bldg. No. 20; no drawings)

3,300 s.f. metal storage shed. Sloped roof to the back and garage doors on the front. The west end is slightly larger and is currently used to store a fire truck. The building is currently in good condition and, with regular maintenance, can be expected to have a good remaining service life.

C. Warehouse, Equipment, & Supply (Bldg. No. 2; no drawings)

CMU building with concrete beams overhead in roof. Approximately 1800 s.f., built in 1951. Generally in good shape.

D. Paint, Oil, & Grease Storage (Bldg. No. 20, 21; no drawings)

Two small storage buildings, 150 s.f. each, with metal siding and concrete floors. Both built in 1951. Generally in good condition.

E. Metal Storage Buildings (4) (no drawings)

A number of metal storage buildings. have been constructed that do not show on the existing site plan or drawings. They are all in the northeast corner of the site near the boat storage building.

VI. VEHICLE MAINTENANCE

A. Auto Maintenance Shop (Bldg. No. 17; drawings available)

Wood frame structure built in early 1950's (design drawings dated 1950). Asbestos siding, eve height of 19.5', flat roof, strip footings and stem walls, concrete floor, 2"x8" roof trusses. Building appears to be in good condition. Overhead unit heaters provide space heat. DHW is supplied by an electric tank type heater. Heating and plumbing systems are fair. Approximately 1400 s.f.

B. Vehicle Fueling Station (Bldg. No. 39; no drawings)

Exterior concrete pad and pump fueling station beside of drive. Underground petroleum tanks. See environmental assessment for information regarding location and condition of underground storage tanks.

C. Auto Hobby Shop (Bldg. No. 53; drawings available)

Pre-engineered metal building built in 1969. One-story with columns and horizontal girts. Steel purlins, metal siding, two metal overhead doors, concrete floor and strip floor footing. Approximately 940 s.f.

VII. WATER SUPPLY

A. 30,000 Gallon Water Tank (Bldg. No. 31; drawings available)

Steel tank on concrete foundation. Basically in good shape --could use a new coat of paint.

B. 75,000 Gallon Water Tank (Bldg. No. 51; drawings available)

Steel tank on concrete foundation. Basically in good shape -- could use a new coat of paint.

C. Water Storage Dam (Bldg. No. 52; drawings available)

Rock fill structure with metal sheet piling. Design drawings dated 1959. Approximately 200 ft. long x 20 ft. high. Dam structure itself appears to

be fine. Reservoir needs to be dredged and some provisions made for overflow.

D. Water Supply Bldg. & Pump Station (Bldg. No. 24; drawings available)

Flocculation system, sand and carbon filters, and chlorination. Approximately 300,000 gpd.

E. Fire Hose Houses (Bldg Nos. 26, 27, 35, 483-487; no drawings)

Small wood sheds housing hydrants and hose.

VIII. SANITARY SEWAGE (Bldg. No. 450; no drawings)

Primary Treatment:

- -- Bar Screen
- -- Comminutor
- -- Wet Well
- -- Aeration
- -- Clarifier
- -- Chlorine Contact Tank
- -- Outfall & Sludge Tank

Minimum flow: 20,000 gpd.
Maximum flow: 40,000 gpd.

IX. HEATING

A. Heating Plant (Bldg. No. 14)

The entire station (except the family housing area, the NCO club and the bowling alley) is supplied by low pressure steam from a central distribution system. Steam is supplied to the distribution system by three (3) oil-fired, fire tube boilers, located in a central plant. Each boiler is rated at 33 h.p. (approx. 1,000,000 btu/hr) at 30 psi delivery pressure. Two underground storage tanks supply #2 fuel oil to the boilers. Total storage capacity is 18,000 gallons.

The boilers are in excellent condition. Each boiler was refitted with flame retention type burners approximately three years ago.

B. Exterior (Above Ground) Steam Piping (drawings available)

Steam distribution to the various buildings is by overhead and ground mounted piping. A high wintertime water table was the explanation given for using the exposed piping systems. Overall the district heating system is in excellent condition.

X. POWER

A. Transformer on Poles - Aerial From Neah Bay

Clallam PUD owns the pole line up to the primary metering pole 200 ft. outside the Air Force Station. From there and into the station, the pole line is owned by the Air Force. (See the Overview for more detailed electrical information.)

XI. TRAILER COURT & FAMILY CAMP AREA

A. Trailer Court

19 trailer court spaces. Newly installed drainfield with 1000 gallon sand collection tank. Projected life of 10-15 years.

B. Camping Area

Small camping area immediately adjacent to the trailer court. 8-10 camp sites with a restroom building.

C. Log Dam & Water Supply

Small log reservoir and chlorinated treatment system to provide water to trailer court and camping area.

APPENDIX B: SCHEDULE OF RECOMMENDED IMPROVEMENTS

OPTION A: EDUCATIONAL INSTITUTION

	TIME FRAME		
RECREATION IMPROVEMENTS	IMMEDIATE	5-YEAR	ULTIMATE
-- Enlarge gym to provide new men's and women's lockers (200 s.f.)	X		
-- New full size gym with bleachers			X
-- Resurface tennis courts	X		
-- New BBQ area		X	
-- New tennis courts (2) and baseball diamond			X
ADMINISTRATIVE IMPROVEMENTS			
-- Renovate PX to admin. offices (2500 s.f.)	X		
-- Renovate Bldg. 11 to medical facilities (2000 s.f.)	X		
DINING FACILITIES			
-- Dining improvements - cosmetic	X		
-- Enlarge dining hall (3000 s.f.)		X	
MAINTENANCE FACILITIES			
-- Relocate road maintenance to gravel pit site	X		
LIVING AREAS			
-- Painting and minor improvements	X		
-- Addition of showers and lounges		X	
-- New foundations under relocatables	X		
EDUCATIONAL FACILITIES			
-- Renovate Bldg. 2 to faculty offices (1800 s.f.)	X		
-- Renovate Bldg. 15 to classrooms and offices (6400 s.f.)	X		
-- Renovate Bldg. 17 to labs (1400 s.f.)	X		
-- Renovate Bldg. 36 to lab space (1560 s.f.)	X		
-- Renovate Bldg. 4 to classrooms and faculty offices (2000 s.f.)	X		

ROADS, PARKING AND CIRCULATION	TIME FRAME IMMEDIATE	5-YEAR	ULTIMATE
-- Central drive and intersection renovated and landscaped mall		X	
-- Amphitheater			X
-- Modifications to existing circulation (bollards, signs, painting, etc.)	X		
-- New 200 space parking lot	X		
-- Additional 100 space parking lot		X	
-- Entry road to new parking lot	X		
-- Misc. paving in site	X		
-- Misc. security gates and fencing	X		
UTILITIES			
-- Misc. electrical improvements	X		
-- Bury steam lines in conduit and vaults		X	
-- New spillway and overflow channel at reservoir	X		
-- Painting water tanks	X		
-- Sewage treatment plant improvements & permit	X		
Note: If loading increases, engineering will be necessary to reduce infiltration and/or expand plant.			
-- Storm drainage system	X		
-- Protective chain link fence around reservoir	X		
SITE LANDSCAPING			
-- Pond water feature			X
-- Landscape scenery of maintenance area		X	
-- Street and pedestrian lighting	X		
Note: Possible demolition: chapel (1000 s.f.) shed roof (1000 s.f.)			
Note: Possible irrigation system			
ENVIRONMENTAL			
-- Environmental audit	X		
-- Seal asbestos shingles with epoxy	X		
-- Asbestos removal from insulation at boilers	X		
-- Hydrologic investigation*			
-- Removal and replacement of asbestos shingles*			
-- Removal and replacement of underground storage tanks*			
-- Removal of "blind" pesticide tank*			
-- Removal and replacement of transformers with PCB*			

*If required as determined from environmental audit.

OPTION B: TRIBAL CENTER

	TIME FRAME		
RECREATION IMPROVEMENTS	IMMEDIATE	5-YEAR	ULTIMATE
-- Bldg. 11 renovate minor improvements arts & crafts, and gift shops (2000 s.f.)	X		
-- Resurface tennis courts	X		
-- Men's and women's locker addition on gym (2000 s.f.)	X		

Note: Pin spotters to remain in place in bowling alley

ADMINISTRATIVE IMPROVEMENTS			
-- Minor improvements for social service offices at Bldg. 2 (1800 s.f.)	X		
MAINTENANCE FACILITIES			
-- Use existing buildings and facilities			
LIVING AREAS			
-- RV Park construction: Family camp and trailer court - 50 to 60 spaces	X		
-- Minor improvements to the 5 dorms	X		
-- Add lounges and restrooms to the 5 dorms		X	
-- Foundations beneath "relocatables"	X		
TRIBAL/CULTURAL FACILITIES			
-- New floor in NCO club for tribal functions (all purpose - 2000 s.f. new floor)	X		
-- New tribal multi-use center			X
-- Minor renovation of Bldg. 4 to council chambers and offices (2000 s.f.)	X		
-- Renovate Bldg. 36 to elders lodge (1560 s.f)	X		
-- Renovate Bldg. 28 to medical facility and offices for social services (2500 s.f.)	X		
DINING FACILITIES			
-- Minor renovation and cosmetic improvements to mess hall (6600 s.f.)	X		

ROADS, PARKING AND CIRCULATION	TIME FRAME IMMEDIATE	5-YEAR	ULTIMATE
-- Parking at NCO - 50 spaces	X		
-- Parking at Gym - 20 spaces		X	
-- Parking at NE corner - 50 spaces			X
-- Circulation modifications	X		
SITE AND LANDSCAPING			
-- Possible Demolition: auto hobby shop (940 s.f.), boat storage (2800 s.f.), misc. metal shed, carport behind Blvd. 43 (1000 s.f.), chapel (1000 s.f.)			
UTILITIES			
-- Misc. electrical improvements	X		
-- Bury steam lines in conduit and vaults		X	
-- New spillway and overflow channel at reservoir	X		
-- Painting water tanks	X		
-- Sewage treatment plant improvements & permit	X		
Note: If loading increases, engineering will be necessary to reduce infiltration and/or expand plant.			
-- Storm drainage system	X		
-- Protective chain link fence around reservoir	X		
ENVIRONMENTAL			
-- Environmental audit	X		
-- Seal asbestos shingles with epoxy sealer	X		
-- Asbestos removal from insulation at boilers	X		
-- Hydrologic investigation*			
-- Removal and replacement of asbestos shingles*			
-- Removal and replacement of UST*			
-- Removal of "blind" pesticide tank*			
-- Removal and replacement of transformers with PCB*			

*If required as determined from environmental audit.

OPTION C: DRUG REHAB./VOCATIONAL TRAINING

	TIME FRAME		
RECREATION IMPROVEMENTS	IMMEDIATE	5-YEAR	ULTIMATE
-- Bldg. 11 - renovate minor improvements arts & crafts, and gift shop (2000 s.f.)	X		
-- Resurface tennis courts	X		
-- Additional softball field and tennis courts			X
SOCIAL SERVICE ADMINISTRATIVE IMPROVEMENTS			
-- Minor improvements for social service offices at Bldg. 2 (1800 s.f.)	X		
-- Renovate Post Exchange to administration (2500 s.f.)	X		
-- Renovate Bldg. 36 to medical facility (1560 s.f.)	X		
MAINTENANCE FACILITIES			
-- Convert maintenance yard to shops and voc. tech.			X
LIVING AREAS			
-- Foundations beneath "relocatables"	X		
-- Renovate dorms - bathrooms & lounges		X	
DINING FACILITIES			
-- Minor renovation and cosmetic improvements to mess hall	X		
-- Enlarge mess hall (3000 s.f.)			X
ROADS, PARKING, CIRCULATION			
-- Parking at NCO - 50 spaces	X		
-- Parking at Gym - 20 spaces		X	
-- Parking at NE corner - 50 spaces			X
-- Circulation modifications	X		
SITE AND LANDSCAPING			
-- Possible Demolition: auto hobby shop (940 s.f.) boat storage (2800 s.f.) misc. metal shed carport behind Blvd. 43 (1000 s.f.) chapel (1000 s.f.)			
central pedestrian plaza at main street intersection			X

DRUG REHAB./VOCATIONAL TRAINING	TIME FRAME		
	IMMEDIATE	5-YEAR	ULTIMATE
-- Bldg. 4 renovated to classrooms and meeting rooms	X		
-- Bldg. 15 renovated to offices and meeting rooms	X		
UTILITIES			
-- Replace 300 kva transformer	X		
-- Bury steam lines in conduit and vaults		X	
-- New spillway and overflow channel at reservoir	X		
-- Painting water tanks	X		
-- Sewage treatment plant improvements & permit	X		
Note: If loading increases, engineering will be necessary to reduce infiltration and/or expand plant.			
-- Storm drainage system	X		
-- P otective chain link fence around reservoir	X		
ENVIRONMENTAL			
-- Environmental audit	X		
-- Seal asbestos shingles with epoxy sealer	X		
-- Asbestos removal from insulation at boilers	X		
-- Hydrologic investigation*			
-- Removal and replacement of asbestos shingles*			
-- Removal and replacement of UST*			
-- Removal and replacement of transformers with PCB*			

*If required as determined from environmental audit.